

# ARCHAEOLOGICAL ASSESSMENT

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PRIVATE PLAN CHANGE REQUEST  
TE RAPA

PREPARED FOR FONTERRA LIMITED

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FONTERRA LIMITED

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## Executive Summary

Fonterra has commissioned Sian Keith Archaeology Ltd (SKA) to provide an archaeological assessment to support PC17 for land located in Te Rapa North. The Plan Change Area was subject to a desktop assessment using historic documents including aerial photographs, historic maps, and archaeological data including the New Zealand Archaeological Association's national database ArchSite, consultant's reports for the wider area, and relevant council plans. A field visit to the Fonterra owned land within the Plan Change Area has been made.

The research and fieldwork for this assessment has identified that there is one previously recorded archaeological site within the Plan Change Area – S14/17. This recorded pā site is located within the northern part of the Plan Change Area immediately adjacent to the Waikato River and has been previously recorded as part of a wider complex of sites related to Mangaharakeke Pā (S14/18), located between the existing Te Rapa Dairy Manufacturing Site and the river.

Pockets of evidence for traditional gardening sites were identified within the Plan Change Area. With the exception of one area, this evidence has been recorded as archaeological site S14/505. A further area of probable garden soils at the southeast of the Plan Change Area was inaccessible at the time of the field survey and requires ground-truthing to determine if a new archaeological site record should be made.

Six dwellings are visible on the 1941 aerial image, five of which have since been removed, and one which remains upstanding. One or more of these dwellings could have been built prior to 1900 and therefore meet the definition of an archaeological site.

The known archaeological sites of pā (S14/17) and associated traditional gardens (borrow pits and modified soils - S14/505) present within the Plan Change Area are common within the river environment of the Waikato Basin. Together they represent pre-European Māori occupation and horticultural activity. The pā is likely to be intact but has not been formally surveyed for this assessment. Previous archaeological investigations note that the portion of S14/17 within the Plan Change Area is the only aspect of the pā site that is still intact, as such there are likely to be high archaeological values associated with this site. The garden site S14/505 has been affected by historical earthworks within the Plan Change Area, but likely has some intact archaeological values which could be investigated by archaeological methods. The pā has high amenity values which could be further enhanced in a similar fashion to adjacent Mangaharakeke Pa (S14/18). Cultural values have been left for Mana Whenua to determine.

It is recommended in this report that:

- The extent of pā site S14/17 be excluded from all future development. Furthermore, that a site visit be undertaken to the pā in collaboration with Mana Whenua, that it be surveyed, and a conservation management plan be developed.
- As part of any future consenting process, an assessment of effects be commissioned in relation to traditional garden site S14/505 once future development plans are known. If this site cannot be avoided, for any earthworks that might affect all or part of this site an Archaeological Authority must be obtained prior to the start of any future works.
- The area of mapped modified soils on the southeast side of the Plan Change Area should be subject to a field visit to determine if this is an archaeological site. If it is found to be such, the recommendations for S14/505 should be adopted.

- The six dwellings identified on the 1940s aerial image (known as Structures 2, 3, 4, 5, 6 and 7) are not known to be pre-1900, and PC17 does not need to be modified based on these potential values. Structures 3, 4, and 6 are considered to have been so heavily modified that the risk of affecting archaeological values is low. The risk of affecting archaeological values at structures 2, 5 and 7 (the latter is the only dwelling still present) should be assessed through a full assessment of effects if development plans include impacts to these locations.
- Mana Whenua should continue to be consulted regarding this assessment and the conclusions reached, the cultural effects of PC17 and any possible future development.

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## 1. INTRODUCTION

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### 1.1. PURPOSE & SCOPE

This archaeological assessment report has been prepared on behalf of Fonterra Limited (Fonterra) to inform and support its Private Plan Change (PC17) request at Te Rapa, Hamilton. The purpose of PC17 is to rezone approximately 102ha of land (the Plan Change Area) surrounding the Te Rapa Dairy Manufacturing Site. PC17 does not seek to change any of the land within Te Rapa Dairy Manufacturing Site or planning provisions relating to the factory.

The objectives of PC17 are to:

- Rezone all Fonterra-owned land to Te Rapa North Industrial zone.
- Protect the Te Rapa Dairy Manufacturing Site from reverse sensitivity risk.
- Future proof rail access on the North Island Main Trunk Line.

The extent of the Plan Change Area that is subject to PC17 is set out within Figure 1 below.

This report is an archaeological assessment of the Plan Change Area. It identifies the likely nature and probable extent of pre-1900 evidence of human occupation within the Plan Change Area. The archaeological values have been assessed in line with Hamilton City Council (HCC) and Heritage New Zealand Pouhere Taonga (HNZPT) requirements.

The Plan Change Area encompasses:

**West Block:** Section 3 SO 456626, Section 1 SO 456626, Lot 1 – 6 DPS 11087, Part Lot 2 DPS 10804, Lot 1 DPS 34481 and Part Lot 1 DPS 10804;

*The West Block has been further broken down as 'Northwest' and 'Southwest' by this report.*

**North Block:** Lot 1 DP 551065 and Lot 1 DPS 8230

**South-East Block:** Lot 5 DPS 18043, Lot 1 DPS 85687 and Lot 1-3 DPS 61136

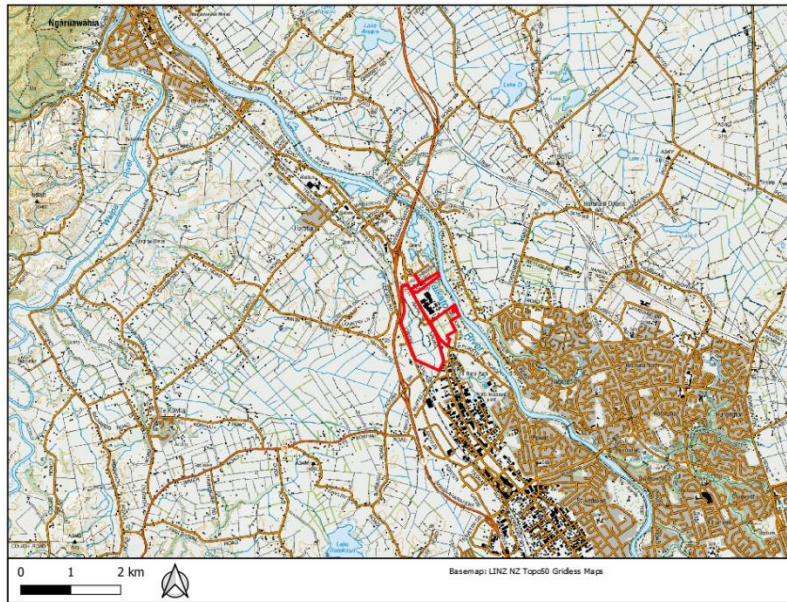


Figure 1: Map showing the location of the Plan Change Area (red polygon) in relation to Hamilton City & Ngaruawahia, and on modern aerial. Yellow shade not surveyed.



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## 2. STATUTORY REQUIREMENTS

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There are two main pieces of legislation in New Zealand that control work affecting archaeological sites. These are the *Heritage New Zealand Pouhere Taonga Act 2014* (HNZPTA) and the *Resource Management Act 1991* (RMA).

### 2.1. HERITAGE NZ POUHERE TAONGA ACT 2014

The purpose of the HNZPTA is to promote the identification, protection, preservation, and conservation of the historical and cultural heritage of New Zealand (HNZPTA section 3). Emphasis is placed on avoiding effects on heritage.

The HNZPTA provides blanket protection to all archaeological sites meeting the definition in the HNZPTA, whether they are recorded or not. Protection and management of sites is managed by the archaeological authority process, administered by Heritage New Zealand Pouhere Taonga (HNZPT). It is illegal to destroy or modify archaeological sites without an authority to do so from HNZPT.

The HNZPTA (s6) defines an archaeological site as:

- (a) Any place in New Zealand including any building or structure (or part of a building or structure) that:
  - (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where that wreck occurred before 1900; and
  - (ii) provides, or may provide through investigation by archaeological methods, evidence relating to the history of New Zealand; and
- (b) Includes a site for which a declaration is made under Section 43(1) of the Act<sup>1</sup>.

Any person who intends carrying out work that may modify or destroy an archaeological site, or to investigate an archaeological site using invasive archaeological techniques, must first obtain an authority from HNZPT. The process applies to sites on land of all tenure including private, public and designated land. The HNZPTA contains penalties for unauthorised site damage.

The archaeological authority process applies to all archaeological sites that fit the HNZPTA definition regardless of whether the site is recorded in the New Zealand Archaeological Association's (NZAA) Site Recording Scheme or registered with HNZPT; or if the site only becomes known about as a result of ground disturbance; and/or the activity is permitted under a district or regional plan, or a resource or building consent has been granted, or the ground is subject to a designation.

HNZPT also maintain the New Zealand Heritage List/Rārangi Kōrero (The List). The List can include archaeological sites. The purpose of The List is to inform members of the public about such places, and to assist with their protection under the RMA.

It is possible that archaeological sites, as defined in the HNZPTA, may be disturbed by future works enabled by PC17. Any archaeological sites identified during the ground works within the Plan Change Area will be protected under the HNZPTA, and their discovery may pose delays to works unless an archaeological authority has been issued that allows the work.

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<sup>1</sup> Such declarations usually pertain to important post-1900 remains with archaeological values.

## 2.2. THE RESOURCE MANAGEMENT ACT 1991

The RMA requires City, District and Regional Councils to manage the use, development, and protection of natural and physical resources in a way that provides for the wellbeing of today's communities while sustaining the potential of natural and physical resources for future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (section 6f).

Historic heritage is defined as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities.

Historic heritage includes:

- Historic sites, structures, places and areas;
- Archaeological sites;
- Sites of significance to Māori, including wahi tapu; and,
- Surroundings associated with the natural and physical resources (RMA section 2).

These categories are not mutually exclusive, and some archaeological sites may include above ground structures or may also be places that are of significance to Māori.

## 2.3. STATUTORY PLANNING INSTRUMENTS

The Plan Change Area falls within the boundaries of Hamilton City District. The Hamilton City Operative District Plan ("ODP") is relevant to the Plan Change Area and has policy for the protection of heritage within its boundary.

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## 3. METHODOLOGY

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This assessment has used the following sources to provide a historical and archaeological background of the entire Plan Change Area:

- The NZAA's online database ArchSite;
- The New Zealand Heritage List/Rārangī Kōrero (The List);
- The ODP;
- Hamilton City Plan Change 9 – Historic Heritage and Natural Environment;
- Historic LINZ maps using the program Quickmap;
- Historic aerial photographs;
- Historic survey maps and plans; and,
- Previous consultant's reports.

A site visit was undertaken to the Fonterra-owned parts of the Plan Change Area on the 2<sup>nd</sup> of August 2023 by the author Anne O'Hagan and assistant archaeologist Isabella Caldwell. The majority of the Fonterra-owned parts of the Plan Change Area were inspected during this visit, with a series of hand augers excavated to determine the nature and extent of horticultural soils within the Fonterra-owned Plan Change Area as well as determine the condition of the wider landscape.

The site visit undertaken was limited to the land parcels owned by Fonterra. No other properties included in the PC17 were visited (refer to Figure 1 for areas not surveyed). Additional site visits will be required prior to any development being undertaken on these properties.

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#### 4. PHYSICAL ENVIRONMENT AND SETTING

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The Plan Change Area is located in the Waikato Region, just north of Hamilton City on the true left bank of the Waikato River. The river has a long geological and cultural history. The river was established around 21,800 years ago (McCraw 2011). The river course was changed from the Hinuera Valley to its current course north-west as a result of eroding debris from the Oranui eruption of the Taupō volcano 27,000 years ago, choking its original course. It fanned out over the region from the Maungatautari Gorge creating alluvial land formations (ibid). The lower terraces carry deposits known as the Taupō Pumice Alluvium which are up to approximately 30 m thick. The deposits represent a dramatic break-out flood event following the latest eruption of Taupō Volcano (in c.235 AD). Huge quantities of pumiceous deposits were swept down the Waikato River, which rose several metres to tens of metres, and then were left stranded as terrace deposits adjacent to the main river channel and up tributary valleys or gullies that drained into it (Lowe 2010).

The soil maps from Land Care Research have historic vegetation layers which record the Plan Change Area as likely covered in kahikatea, pukatea and tawa forest, right up to the river edge.<sup>2</sup> This was likely cleared prior to the establishment of the pre-European Māori pā and horticultural sites known to be present. Soil maps indicate that the Plan Change Area is within an extensive area of recorded Māori modified soils (Tamahere series) (Figure 2) and there is evidence in the form of borrow pits for related activities within the wider landscape (Figure 3). There are small pockets of recorded Tamahere soils visible within the Plan Change Area; these are discussed in more detail below.

At present, most of the Plan Change Area is currently in short pasture and used as dairy farmland. There are at least ten dwellings across the entire Plan Change Area with one dwelling present in 1941 imagery (as discussed later in this assessment), as well as outbuildings associated with the kennels at Lot 1 DP 551065/1412 Te Rapa Road. Farm buildings, including a milking shed and effluent ponds, are clustered within Lot 3, 4 and 6 DPS 11087. There are farm tracks noted across the Plan Change Area, as well as trees and hedges.

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#### 5. HISTORICAL BACKGROUND

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The following section summarises the known history of Te Rapa/Horotiu. It does not provide a detailed history of the occupation in the wider area. No attempt has been made to synthesise the rich and detailed record of Māori oral traditions and whakapapa concerning the area or the various perspectives of the Mana Whenua representatives involved, as this is best done by Mana Whenua.

##### 5.1. MĀORI ERA

The current archaeological record of inland Waikato highlights a focus of archaeological activity and sites along the waterways – principally the Waikato and Waipā Rivers. The navigable waterways, their tributaries and gully systems were the main focus of movement, occupation and land use by Māori. Radiocarbon dates from recent archaeological investigations at Burns Block, Cambridge,

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<sup>2</sup> <https://iris.scinfo.org.nz/data/category/biota/> Potential Vegetation of New Zealand layer

indicate Māori occupied the district from at least the middle of the 15th century (Gumbley and Laumea 2017:70).

The abundance of archaeological records along the Waikato River indicates the significant nature of the river as a means of transport and focus of occupation. On top of high points, overlooking the river, pā sites were established. They are often recognised in the archaeological record due to their distinct and visible features. Settlement sites are typically surrounded by cultivations. It is known that the riverbanks provided areas of fertile soils suitable for cultivating and harvesting plant materials. The extent of less visual subsurface archaeological remains is not as well known, particularly in more heavily developed areas.

In Horotiu, there are five recorded pā sites along the river edges, including Mangaharakeke Pā (S14/18) which is located on the riverbank and within Fonterra's land at Te Rapa. This is a three-pā complex, which is considered one of the largest pā complexes along the Waikato River at the boundary between the rohe of Ngāti Wairere and Ngāti Māhuta (Phear et al. 2013). Traditional kōrero suggests that occupation of the pā started in the mid-17<sup>th</sup> century, with a second occupation approximately 100 years later (Gumbley & Higham 2000). In 1822 the pā was temporarily abandoned when Ngāpuhi invaded the area with muskets and set fire to the pā (ibid). Ngāti Koura resettled the pā and the surrounding lands in c.1824 until the British invasion of the Waikato in 1863.

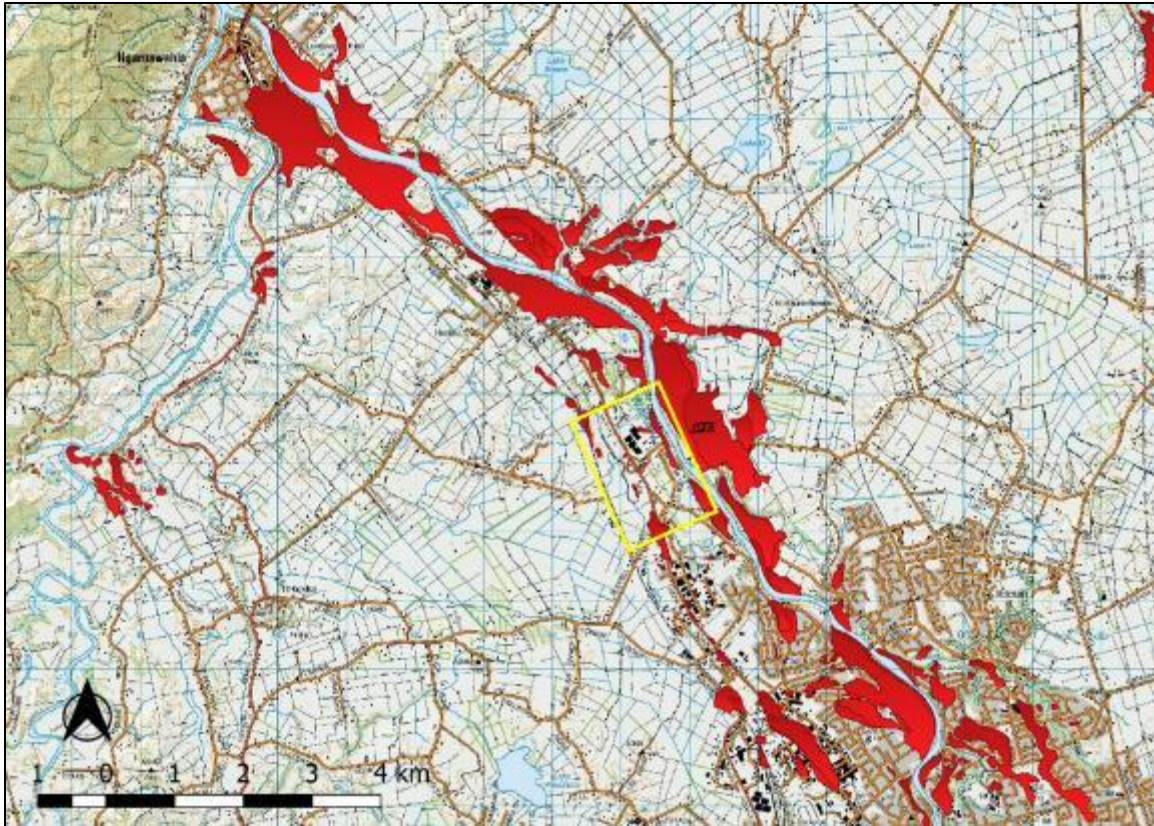
#### 5.1.1. MĀORI HORTICULTURE

Intensive Māori horticultural activity was focused on the raised terraces along the Waikato River (Figure 2). This horticultural landscape is known to be extensive, extending between Arapuni and Meremere, and covering many thousands of hectares on either side of the Waikato River. The evidence includes modified garden soils and borrow pits.

Borrow pits are landscape features known to be within the Plan Change Area (Figure 3). These are highly visible as they can be tens of metres wide and leave deep visible depressions. They are essentially quarries from which Māori extracted sand and gravel to add to their gardens. The borrow pits are often visible in the landscape, or in instances where intensive modern agriculture has taken place, they can be detected from historic aerial imagery.

Numerous archaeological investigations of horticultural sites have taken place over the last 20 years in the Waikato. These have determined that at borrow pit sites there are features and deposits such as modified soils, planting features, fireplaces and storage pits associated with this landscape. There are a variety of planting features that are commonly found in association with modified soils – such as 'puke' (bowl shaped hollows). The cultivated crops were stored in subsurface structures (storage pits) commonly found on the periphery of these horticultural sites.

Radiocarbon dates from Māori horticultural sites suggest that the establishment of this activity in the wider Waikato Basin occurred between the late 15<sup>th</sup> / early 16<sup>th</sup> century AD and spread relatively quickly between Cambridge and Taupiri. Specifically, settlement associated with Horotiu horticultural sites currently clusters between c. 1500-1750 (Keith 2019). Microfossil analysis has identified widespread growth of kūmara, and occasional instances of taro and ūwhi (tropical yam).



*Figure 2: Map showing the distribution of modified garden soils – Tamahere series - in red, between Hamilton and Ngaruawahia. Yellow box denotes the broader Plan Change Area.*



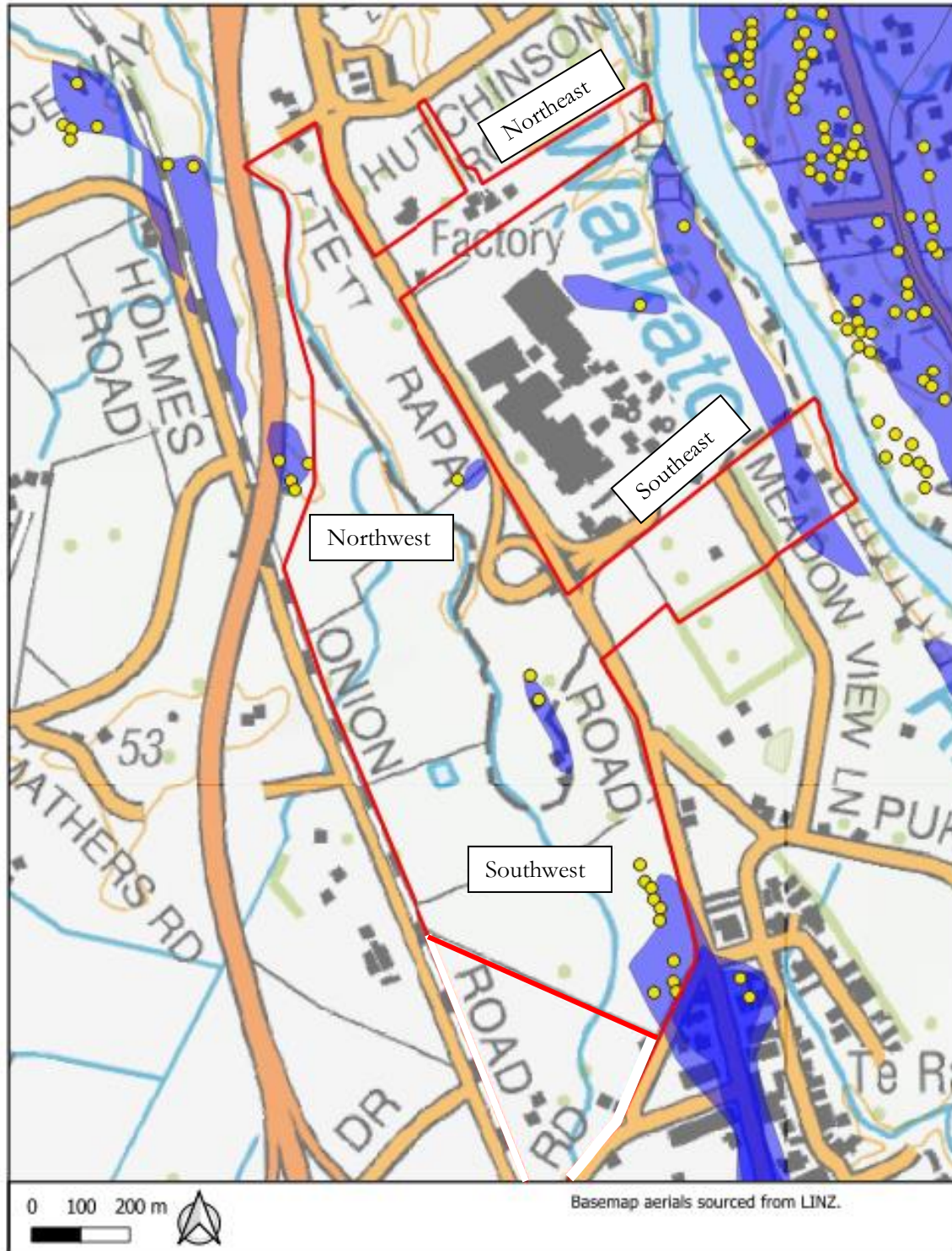


Figure 3: Map showing the distribution of Tamahere soils (purple) within the Plan Change Area (red polygon) and surrounding landscape. Yellow dots denote Māori-era borrow pits. NE/NW/SE/SW portions labelled.

## 5.2. EUROPEAN ERA

Into the mid-1800s Māori retained control over their lands, with few land sales to European colonists. Europeans initially viewed the Waikato as too swampy and too inaccessible for agriculture, but with the farming successes and productivity by Māori in the 1840s and 1850s this view changed (Williams *in* Phillips and Thorne 2014).

Increasing pressure for land by Europeans was one of the reasons for the formation of the Kīngitanga in 1858. The British invasion of the Waikato in 1863 aimed to stop the Kīngitanga and gain land for European settlers. Following the battle of Rangiriri, Māori land was confiscated and apportioned to militiamen of the Fourth Waikato Regiment, including the Plan Change Area (Figure 4).

Initial European settlement was predominantly focused at Ngaruawahia and Kirikiriroa/Hamilton. The connecting Great Southern Road opened in 1866, however, it was quite rough until at least 1870 when wheeled traffic could be used.<sup>3</sup> Militiamen found their allotments to be swampy and they lacked farming skills. Many sold up or settled on town sections within the first few years of ownership. Other farmers added to their holdings and Auckland investors acquired this land. An example of this amalgamation of 50-acre blocks is the land purchased by Lewis Bassiere Harris (Figure 4). Harris purchased a number of allotments between Horotiu Bridge Road to Pukete Road, including much of the Plan Change Area, to make a total of 757 acres of which he called 'Harrisville'. He established the Halfway or Horotiu Hotel located in the vicinity of the junction of Pukete Road and Great South Road (Heritage Consultancy Services, 2014). This hotel was a stopping place for changing horses along the route; however, the river remained the main transport for many years (McEwan & Williams, 2014). By 1865, Harris had taken charge of the Royal Hotel in Hamilton East but was declared bankrupt in 1867<sup>4</sup> and again in 1881.<sup>5</sup>

The exact location of the Halfway/Horotiu Hotel has not been determined, nor its years of operation. The hotel is visible on Newell's sketch map of the Waikato from the early 1870s, seemingly south of the Plan Change Area. (Figure 5). The description of the location near the junction of Pukete Road and Great South Road also puts this to the south of the Plan Change Area.

Over the latter decades of the 1800s, wetlands across the wider area were systematically drained and converted into pasture. Construction on the North Island Main Trunk railway line, immediately west of the Plan Change Area, commenced in 1875 and was opened between Ngaruawahia and Hamilton in December 1877 (McEwan & Williams, 2014). A railway station – Pukete – was constructed near present day Bern Road; however, this was moved in 1879 to Horotiu Road (*ibid*). There are stores and workshops noted to be at Horotiu at the turn of the century which are north of the Plan Change Area. This also included the Horotiu Freezing Works which opened in 1916.

The Te Rapa Dairy Manufacturing Site is the dominant development within this landscape, it was officially opened in April 1968. This has slowly grown in the proceeding decades from a smaller factory with houses where 35 key staff members were housed. The site also had a swimming pool, tennis courts and a rugby field.<sup>6</sup> Factory expansion works have occurred periodically since the initial opening.

<sup>3</sup> Lewis Bassiere Harris, 1833-1921' Waikato Times 28/4/2014

<sup>4</sup> Page 1 Advertisements Column 5, Daily Southern Cross, Vol XXIII, Issue 3054 10/5/1867  
<https://paperspast.natlib.govt.nz/newspapers/DSC18670510.2.2.5>

<sup>5</sup> Page 1 Advertisements Column 4, New Zealand Herald, Vol XVIII, Issue 6158 12/8/1881  
<https://paperspast.natlib.govt.nz/newspapers/NZH18810812.2.2.4>

<sup>6</sup> <https://www.fonterra.com/nz/en/our-stories/articles/te-rapa-celebrates-50-years.html>



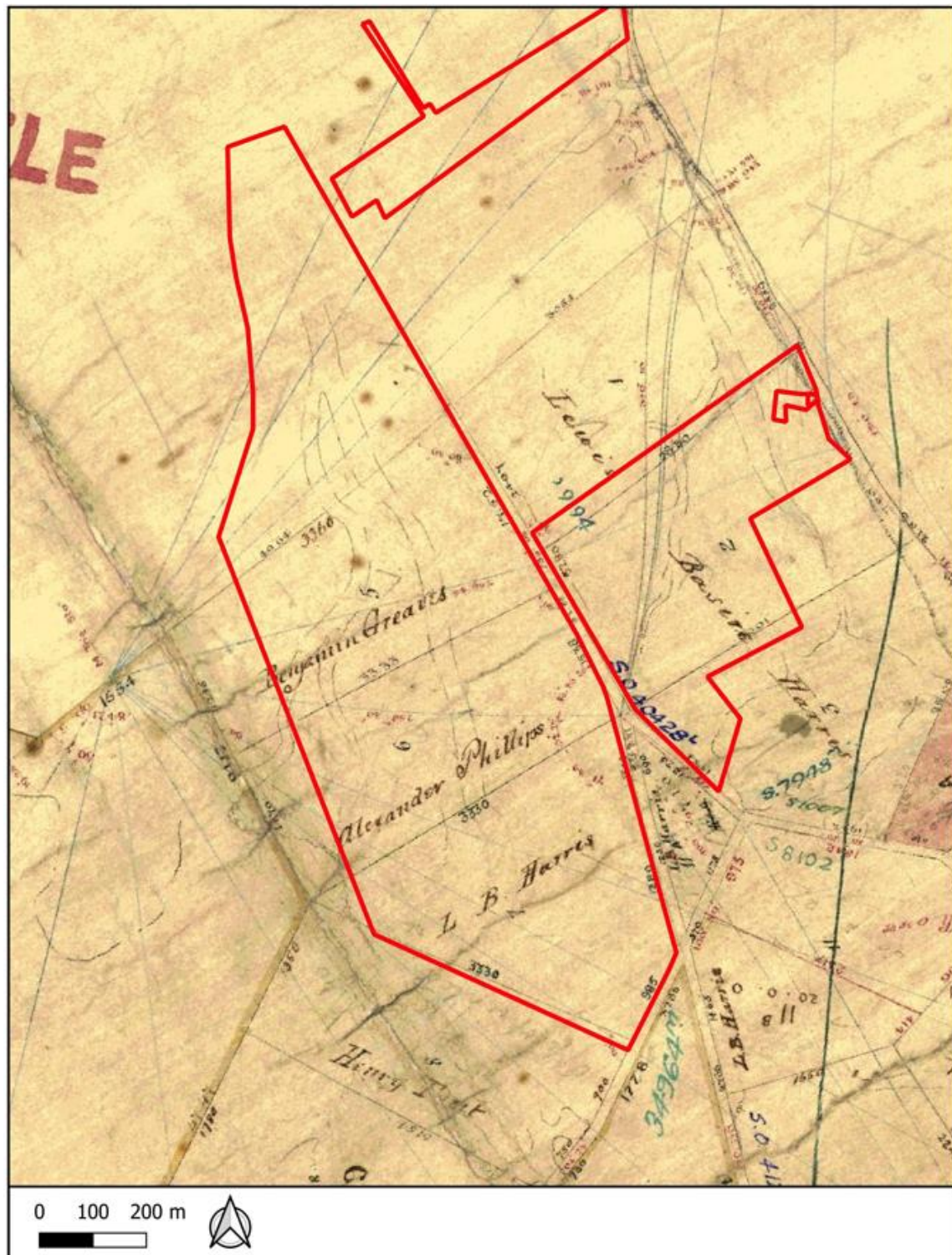


Figure 4: Portion of SO 344, dated 1868, military survey plan showing the Plan Change Area (red polygon).





Figure 5: PART Captain Newall's Sketch Map of the Waikato c.1874.<sup>7</sup> Approximate Plan Change Area denoted in red, yellow arrow denotes hotel.

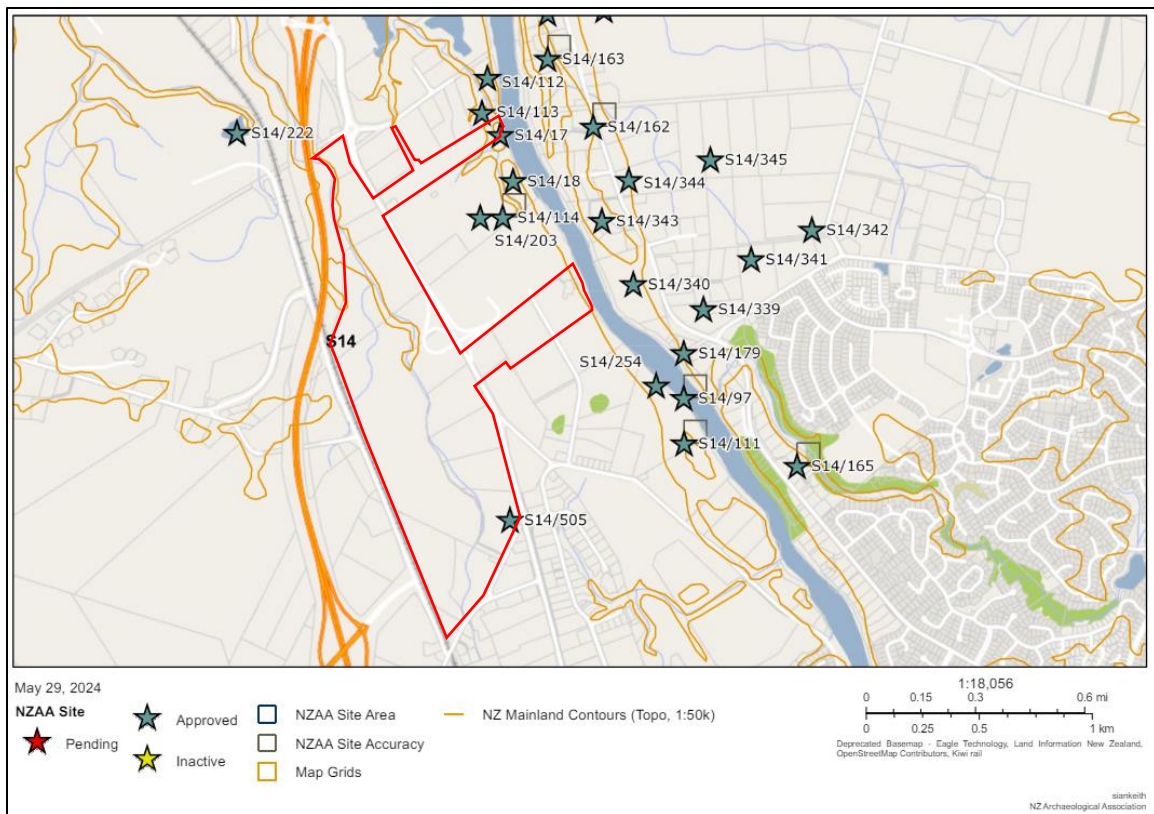


Figure 6: ArchSite map showing the distribution of recorded archaeological sites within Plan Change Area (red polygon).

<sup>7</sup> Paper and ink reproduction from the collection of the Waikato Museum. The detail provided from the museum states: This map, thought to have been drawn by military leader Captain Stuart Newall, shows the Waikato as John Callaghan and the Gibbons brothers knew it in the early 1870s.

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## 6. PREVIOUS ARCHAEOLOGICAL WORK

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### 6.1. RECORDED ARCHAEOLOGICAL & HERITAGE SITES

#### 6.1.1. NZAA ARCHSITE

Figure 6 identifies the archaeological sites recorded on the NZAA site recording scheme (ArchSite) within, and immediately surrounding the Plan Change Area. Table 1 summarises the archaeological sites that are recorded within approximately 500 m of the Plan Change Area.

Pā site S14/17 is recorded within the Plan Change Area (Figure 6). This site was initially recorded in 1977 based on aerial imagery as a small pā with rectangular pits. The first recorded visit was in 1985, when it was mapped (Figure 7), with a cluster of eight pits identified. The site record form (SRF) (provided in the appendix) suggests that there are likely more pits present, and the edges of some features have likely eroded over the river cliff. A small portion of this site was investigated in 2013 during the Te Awa River Ride pathway installation, and the area was noted to have been previously impacted by earthworks associated with the Te Rapa dairy factory (Phillips, 2013). The 2013 SRF update notes that the site is likely two pā – the northern consists of storage pits, and the southern with evidence of defensive features which has almost been completely destroyed. The northern aspect of the pā site is within the Plan Change Area, and based on the available information is considered to be intact.

Following the site visit for PC17, archaeological site S14/505 was recorded. This site is characterised as three clusters of horticultural activity within the Plan Change Area. Further details are provided below and the SRF is provided in the appendix.

S14/113 is recorded as a pit/terrace site, with two clusters of five pits on a promontory surrounded by stream gullies and swamp. The archaeological site was initially recorded in 1985 during which the features were mapped (Figure 7). The archaeological site was visited in February 2000 and noted to be in good condition. The known features are outside of the Plan Change Area. However, there is potential for associated previously unrecorded archaeological features to be present within the Plan Change Area.

Archaeological sites within the wider landscape are typical of the known settlement patterns for the inland Waikato and are all pre-European Māori in origin. There are no European historic-era archaeological sites recorded within the vicinity of the Plan Change Area.

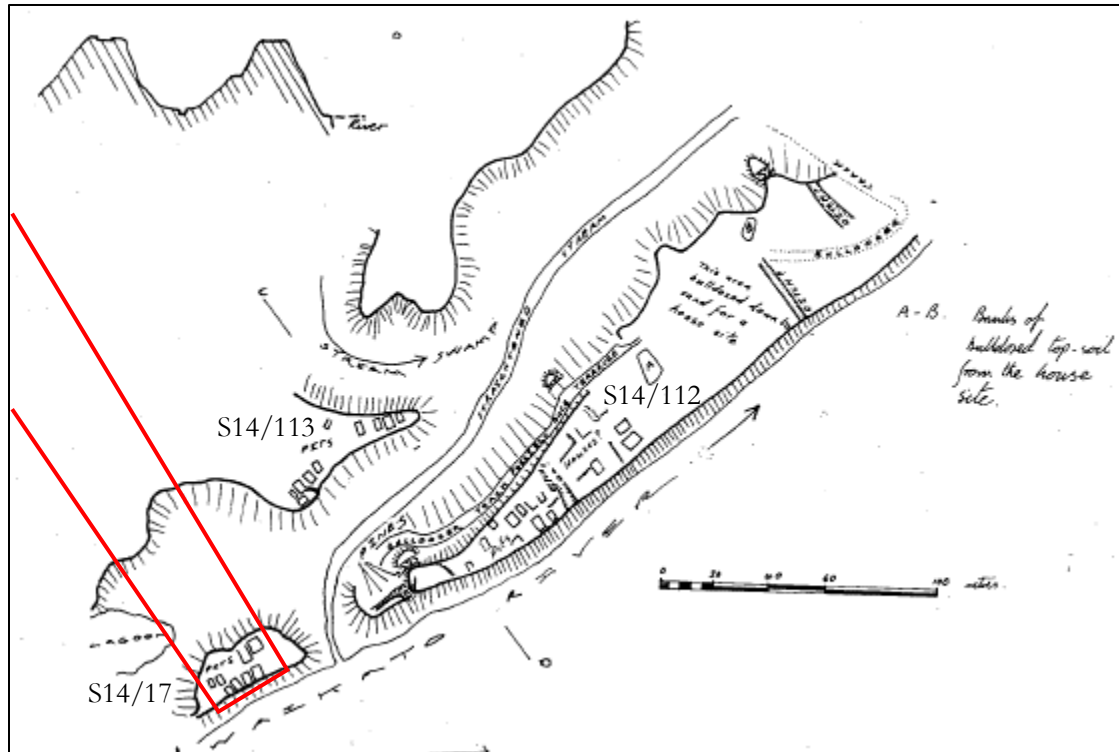


Figure 7: Sketch map of recorded archaeological sites S14/17, S14/112, and S14/113 (labelled), showing the features recorded and the approximate extent of the Plan Change Area (red box). Source: NZAA SRF S14/17.

Table 1: Recorded archaeological sites within the immediate vicinity of the Plan Change Area

| Site    | Type   | Approx. distance to Plan Change Area |
|---------|--|--------------------------------------|
| S14/17  | Originally recorded in 1985 as a pā with at least eight pits, ditch, possible house platforms. Updated in 2014 following the Te Awa River Ride works which note that the site had been severely damaged by multiple phases of earthworks associated with the Te Rapa dairy factory. However, Phillips has identified areas that are still likely to be intact.                       | Within the Plan Change Area          |
| S14/505 | Three clusters of horticultural activity within farmland along western side of Te Rapa Road between the dairy factory turning bay and 50 Old Ruffell Road - extends throughout a number of properties. Recorded following the field visit for PC17.  | Within the Plan Change Area          |
| S14/112 | Pā site initially recorded in 1985, with a series of ditches and banks, at least four platforms with obvious pit clusters on these platforms. Site was updated in 2000 to note that the majority of the site had been modified or destroyed by bulldozing activity.  | c. 30m                               |
| S14/113 | Ten rectangular storage pit depressions in two groups of five. Approximately 0.75m deep based on depression. Initially recorded in 1985. On promontory surrounded by stream gullies and swamp, 'vegetational changes to the southwest may indicate the presence of other sites.' 2000 update indicates the area is in pines and pasture, with no visible surface features remaining. | c. 50m                               |

|         |  |   |
|---------|--|---|
| S14/222 | Modified soils and a partially infilled borrow pit. Soils were noted over Te Kowhai silt loam.   | Immediately west of Waikato Expressway and Plan Change Area |
| S14/18  | Mangaharakeke Pā – multi-phased pā with ditches, internal banks representing at least three defended occupations with different configuration of ditches and banks. There are at least three terraces, four platforms, a natural water spring and a waka landing area under the pā with paths leading up to the pā. Pā has been well mapped since initially recorded in the 1980s.                   | c. 100m S   |
| S14/203 | Pre-European Māori gardening site – total area of 3.3-3.7ha. Drainage system throughout gardening area, with four borrow pits identified and investigated. Four fireplaces were also uncovered, with seven post holes which may represent pataka or whata (raised storehouses) or smaller structures such as shelters. Destroyed through investigation during the construction of the dairy factory. | c. 250m S   |
| S14/114 | 1985 adze findspot – found by driver of bulldozer. 2B likely greywacke.  | c. 300m S   |

#### 6.1.2. THE HNZPT LIST/RĀRANGI KŌRERO

There are no items registered on the List/Rārangi Kōrero within the Plan Change Area or within the near vicinity. The closest registered item is the former Horotiu Public Hall (#4342) approximately 2km northwest of the Plan Change Area.

#### 6.1.3. HAMILTON CITY COUNCIL PLAN

No archaeological or heritage items are identified within the Plan Change Area in the ODP. HCC publicly notified Plan Change 9 (PC9) ‘Historic Heritage and Natural Environment’ on 22 July 2022, seeking to provide for growth and to protect Hamilton's historic heritage and natural environment. PC9 proposes one archaeological site on the north-easternmost edge of the Plan Change Area (as identified in Figure 8). PC9 is subject to Environment Court appeals and is not yet operative.

Figure 8 applies the following PC9 overlays within the wider Te Rapa North area, which have been provided to inform the wider archaeological landscape:

- A31 corresponds to S14/112 (pā);
- A32 corresponds to S14/17 (pā);
- A33 corresponds to S14/18 (pā);
- A42 corresponds to S14/113 (pits);
- A144 relates to Māori horticulture and Waahi Taonga/Artefact Find (limited to the existing Te Rapa Dairy Factory site only).

PC9 reflects the existing requirements for the site under the HNZPTA, refer to Section 6.1.





Figure 8: Map showing the extent of PC9 with regards to the Te Rapa North area. Subject site defined in red.

## 6.2. INVESTIGATIONS

Figure 9 illustrates the location of all reported archaeological investigations both within the vicinity of the Plan Change Area and in the wider landscape. Most relevant to PC17 is the previous investigations that have occurred at the Te Rapa Dairy Manufacturing Site, at site S14/17, which is within the Plan Change Area, and S14/18, S14/203 and S14/112 which are outside of the Plan Change Area and within the Te Rapa Dairy Manufacturing Site.

Minor works have been undertaken at Mangaharakeke Pā (S14/18) since 2001 for native planting, installing pou, interpretation panels and fenceposts, access tracks and removing fill from a defensive ditch on the pā (Gumbley, 2001, and Phear et al., 2013). These works have been designed to limit impacts on known archaeological features, preserve the visible features and to restore one of the ditches.

Expansion of the dairy factory in 1997-1999 was managed under authority 1998/97 during which Māori modified soils were encountered across large sections of the development as well as borrow pits (Gumbley & Higham, 2000). The findings are summarised in Table 1 (S14/203). It is important to note that the modified soils extended far beyond the previously mapped modified soils.

Caroline Phillips undertook investigations along the Waikato River adjacent to the Plan Change Area during the construction of the Te Awa cycleway under authorities 2013/261 & 2014/109. No in situ archaeological material was found in association with S14/17, S14/18, or S14/112 which are all within the immediate vicinity of the Plan Change Area. Shell midden was uncovered (now recorded as

S14/284) approximately 800m north of the Plan Change Area, which is considered rare within the Waikato Basin, and provided a radiocarbon date of c. 1600 AD (Phillips 2014).

S14/222 was investigated by Andrew Hoffman under authority 2010/259, approximately 340m northwest of the Plan Change Area. This site consisted of a borrow pit and a series of gardening features (puke) and deposits on Te Kowhai silt loams. Most notably, microfossil analysis found that yam was cultivated at this site alongside kūmara, which is found less frequently in sites within the Waikato Basin. Charcoal analysis indicated that initial forest clearance charcoal had been incorporated into the horticultural soils and the returned radiocarbon dates place the initial clearance of the forest at some time in the 16<sup>th</sup> century or into the early 17<sup>th</sup> century (Hoffman 2011).

S14/164, approximately 1.2km north, was initially investigated in 2013 during the construction of a house and again in 2020 for the addition of a pool (Simmons 2013 & Gainsford 2020, respectively). Planting features (‘tupuke’) and gardening deposits were uncovered. The returned radiocarbon date placed settlement between 1500-1638.

Sites S14/194-195 were investigated during the construction of the Ngāruawāhia Section of the Waikato Expressway, approximately 1.4 kilometres north (Gumbley & Hoffman 2013). During these investigations, extensive evidence of pre-European Māori horticultural activity was recorded, with modified soils recorded on both Horotiu and Te Kowhai underlying soils. Further investigations associated with the expressway include S14/246 & S14/253 by Sian Keith under authority 2015/958 during which a series of borrow pits and associated horticultural features such as planting areas, modified soils and storage pits were excavated. S14/253 is one of the earliest dated sites, with radiocarbon dates indicating activity as early as c. 1530 (Keith 2019).

Further investigations within the wider landscape include works at S14/242, 2281 River Road, approximately 1.5 kilometres north. This included initial investigative trenching works (authority 2011/51; Mallows 2011) and subsequent invasive topsoil stripping for a residential housing development (authority 2012/297; Keith 2016).

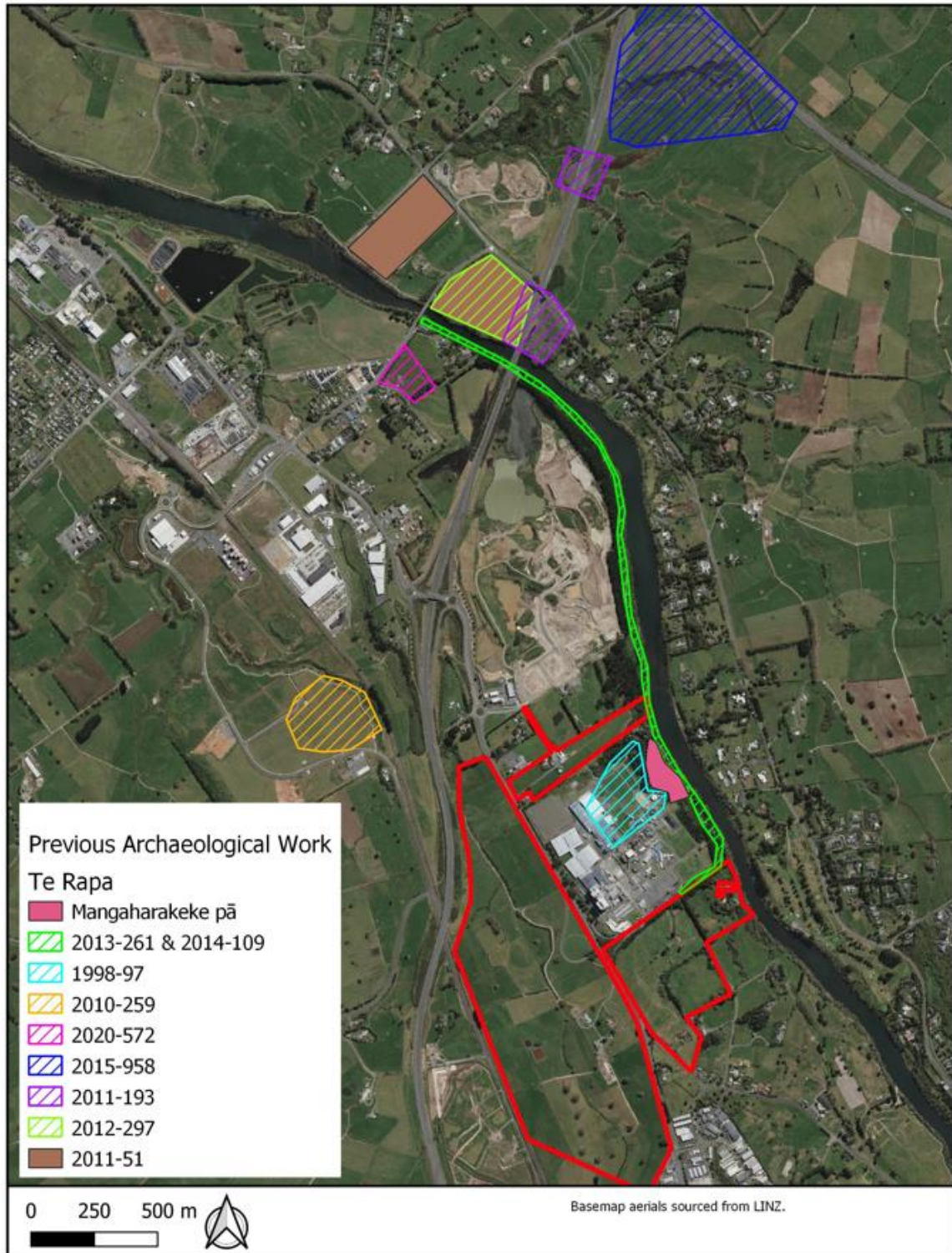


Figure 9: Map showing the extent of previous archaeological investigations, in relation to the Plan Change Area (red polygon).



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## 7. HISTORIC SURVEY MAPS & IMAGERY

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### 7.1. HISTORIC PLANS

Historic plans have been reviewed to identify any potential archaeological or heritage items within the Plan Change Area. Plans such as SO 344 (Figure 4) show that the Plan Change Area was surveyed into blocks in the 1860s. There are no annotations on the pre-1900 plans reviewed that may be surface archaeological features. Later plans track the subdivision of bigger blocks; however, no potential archaeological or heritage items were identified within the Plan Change Area.

### 7.2. HISTORIC AERIAL PHOTOGRAPHS

Aerial imagery is available for the Plan Change Area dating back to 1941. For ease of reference, the Plan Change Area has been divided into four sections – northeastern, northwestern, southwestern and southeastern portions (see Figure 3 for divisions).

#### 7.2.1. NORTHEAST

Aerial imagery shows there has been little noticeable change in the northeastern portion of the Plan Change Area since 1941 (Figure 10). Activity is focused on the existing dwellings, with the number of outbuildings changing slightly over the years. There is little evidence to suggest there has been extensive earthworks within this portion of the Plan Change Area.

Pā site S14/17 is located in this area. The pā is best visible in the imagery dating to 1971 (Figure 11). This imagery shows the storage pits recorded on the SRF. There are no obvious defensive features, such as a ditch or bank, visible. Modern ground disturbance is visible along the northern side of the pā at the base of the slope. Pit features at S14/113 are visible on aerial imagery, and do not appear to extend into the Plan Change Area (Figure 11). Later aerial imagery shows no change in the pā, except that it gradually becomes covered in shrub vegetation.





Figure 10: Aerial images 1941 and 1979 showing limited changes to NE of Plan Change Area (red polygon). Borrow pits S14/203 (pre-European Māori gardening site) highlighted yellow in 1941 imagery, infilled by 1979. Source: Retrolens, ref: 174-302-26 and 5479-D-18.

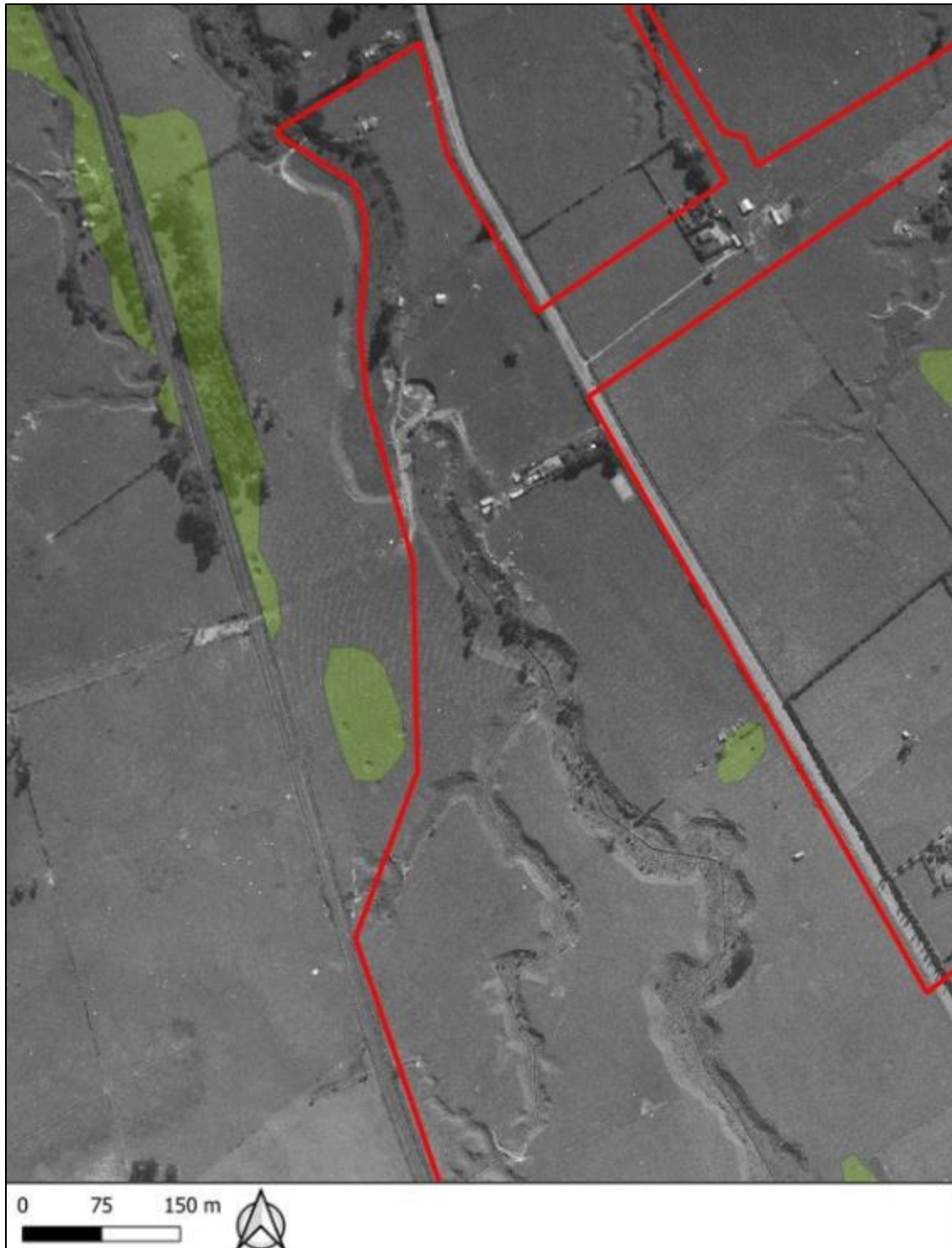


Figure 11: Aerial image dating to 1971 showing S14/17 at its clearest in the Plan Change Area (red polygon). Pit depressions of S14/113 (ten rectangular storage pit depressions in two groups of five) arrowed. Source: Retrolens, ref 3293-H-16.

#### 7.2.2. NORTHWEST

Imagery dating to 1941 shows that most of this portion of the Plan Change Area was in pasture, with one dwelling and outbuildings visible in the centre of the area, and one dwelling to the north (Figure 12). Minor earthworks are also visible along the stream bed edge, possibly a modern gravel quarry. Borrow pits are visible within the area of modified soils adjacent to the western boundary (Figure 12). The patch of modified soils in the eastern side of the Plan Change Area has no obvious borrow pits associated with it.

Imagery dating to the 1970s shows extensive earthworks across almost all the northwestern part of the Plan Change Area (Figure 13), with the exception of a narrow linear area of land adjacent to Te Rapa Road.



*Figure 12: Historic aerial image dating to 1941 showing the northwestern portion of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils. Source: Retrolens, ref 174-302-26.*





Figure 13: Historic aerial images dating to 1971 and 1979 showing earthworks across the majority of the northwestern portion of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils. Source: Retrolens, ref 3293-H-16 & 5479-D-18, respectively.

### 7.2.3. SOUTHWEST

Based on the 1941 aerial imagery there are two areas of modified soils within the southwestern part of the Plan Change Area that have associated visible borrow pits (Figure 14). The northern most part of the Plan Change Area has a dwelling immediately to its east and farm outbuildings and trees sit along the southern extent. It is difficult to determine the age of this house, however, the roofline is possibly a ridge or hip-roofed box cottage which is typical of the late 1800s. Another dwelling is noted near the SE extent of the Plan Change Area, this is surrounded by visible borrow pits (Figure 14). This appears to have bare earth around its periphery and no established outbuildings or gardens, together indicating that it may have just been constructed. A third dwelling is visible further to the south (still present). This one is surrounded by mature hedges and trees. There are out buildings (stables or kennels) and a track connecting to dog or horse racecourse.

By 1979, the borrow pits associated with the northern modified soil area have likely been infilled (Figure 15). The house visible in earlier imagery has been replaced at the same location (and is still present today). Another dwelling has been constructed to the east of this modified soil area, which is still present today. The outbuildings clustered around this area have grown and cover more ground than that visible in 1941.

Some of the borrow pits in the southern cluster had been infilled by 1979 and a shed had been constructed (Figure 15). The flattened-out area had been divided into smaller paddocks. The borrow pits north of the dwelling are still visible at this time. At the southern dwelling, the hedges and trees had been removed, the racing track appears no longer in use and some of the outbuildings had been removed. Within the very southern tip of the Plan Change Area a building had been erected.

Aerial imagery dating to 1995 shows extensive ground disturbance works around the milking shed and within the area of known modified soils (Figure 16). A possible trench is freshly visible along the southern boundary to the west of this area.

Modern imagery shows further disturbances in this section of the Plan Change Area (Figure 17). This shows earthworks around the existing milking shed, track work and a new effluent pond. The ground disturbance visible in the historical imagery is far more extensive than the footprint of the current modern structures suggesting large areas have been disturbed or earth had been distributed across wide areas. The extent of disturbance can only be confirmed through subsurface testing.



Figure 14: Historic aerial image dating to 1941 showing the southwestern portion of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils. Source: Retrolens, ref: 174-302-26.





Figure 15: Historic aerial image dating to 1979 showing the southwestern portion of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils. Source: Retrolens, ref: 5479-D-18.



Figure 16: Aerial image dating to 1995 showing the extent of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils and yellow dots the location of the borrow pits. Yellow arrow denotes fresh trench excavation. Source: Retrolens, ref: SN9401-C-11.





Figure 17: Modern aerial image, dating to 2015 showing disturbances associated with farm infrastructure installation. Green polygon defines extent of recorded gardening soil. Source: Google Earth.

#### 7.2.4. SOUTHEAST

Between 1941 and 1971 the aerial imagery indicates minimal activity within the southeast portion of the Plan Change Area (Figure 18). There are no obvious borrow pits present in association with the known extent of modified soils (Figure 18). There are four sheds visible, including one near the river edge. The area is in short pasture, with trees along fence lines and the river's edge.

By 1979 (Figure 19) the sheds have been removed and a house constructed near the north-east boundary, which is still present today. Near the centre of this area there are new structures erected, possibly farm buildings and/or a dwelling. Meadow View Lane was established between 1971-1979.

Based on the review of historic aerial imagery, there is no evidence of extensive ground disturbance works outside of the areas that currently have structures.



*Figure 18: Historic aerial image dating to 1941 showing the southeastern portion of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils and yellow dots the location of the borrow pits. Source: Retrolens, ref: 174-302-26.*



Figure 19: Historic aerial image dating to 1979, showing the southeastern portion of the Plan Change Area (red polygon). Green polygons denoted extent of modified soils and yellow dots the location of the borrow pits. Source: Retrolens, ref: 5479-D-18.

### 7.3. LIDAR

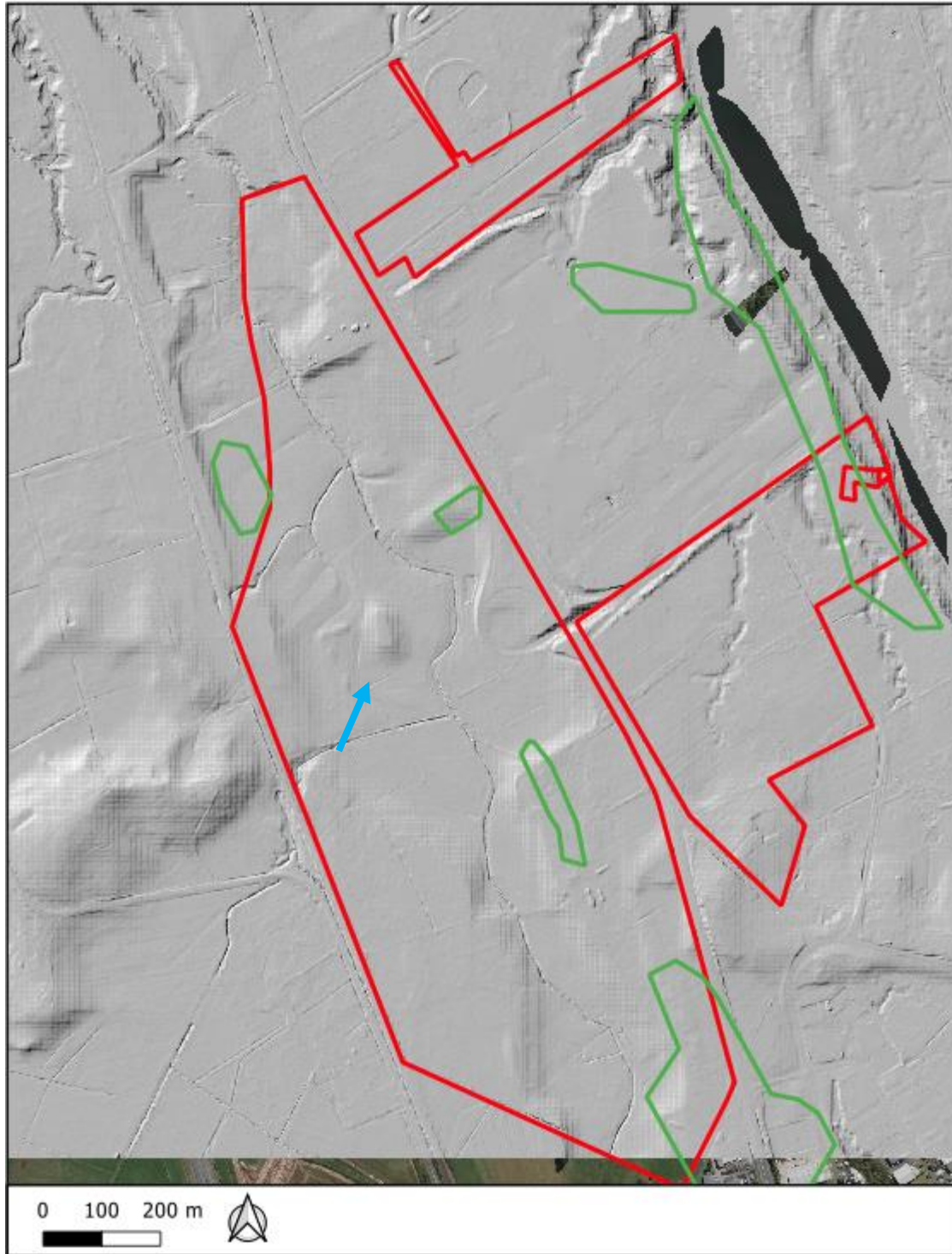
LiDAR data was reviewed to identify any potential subsurface anomalies that may be archaeological in nature (Figure 20). The LiDAR imagery clearly shows that there is a network of cut drains across most of the Plan Change Area. These are within the stream bed, as well as across the higher ground.

A large linear drain can be seen running almost the full length of the northeastern portion of the Plan Change Area (Figure 21). No detail is visible for pā site S14/17, and there are no obvious subsurface depressions visible across the wider area that may be pit depressions associated with S14/112.

Within the areas of known modified soils, the borrow pit depressions noted in historic aerial imagery are not immediately obvious which indicates they have been infilled. This is common across the Waikato Basin as throughout the 20<sup>th</sup> century farmers have often infilled borrow pits when converting land into pasture.

A small hill is visible within the northwestern portion of the Plan Change Area (Figure 20). This is not visible in aerial imagery and may potentially be a modern modification to the landscape. There are no further potentially archaeological anomalies.





*Figure 20: LiDAR in the Plan Change Area (red polygon). Green polygons denoted extent of modified soils. Blue arrow denotes hill for inspection.*

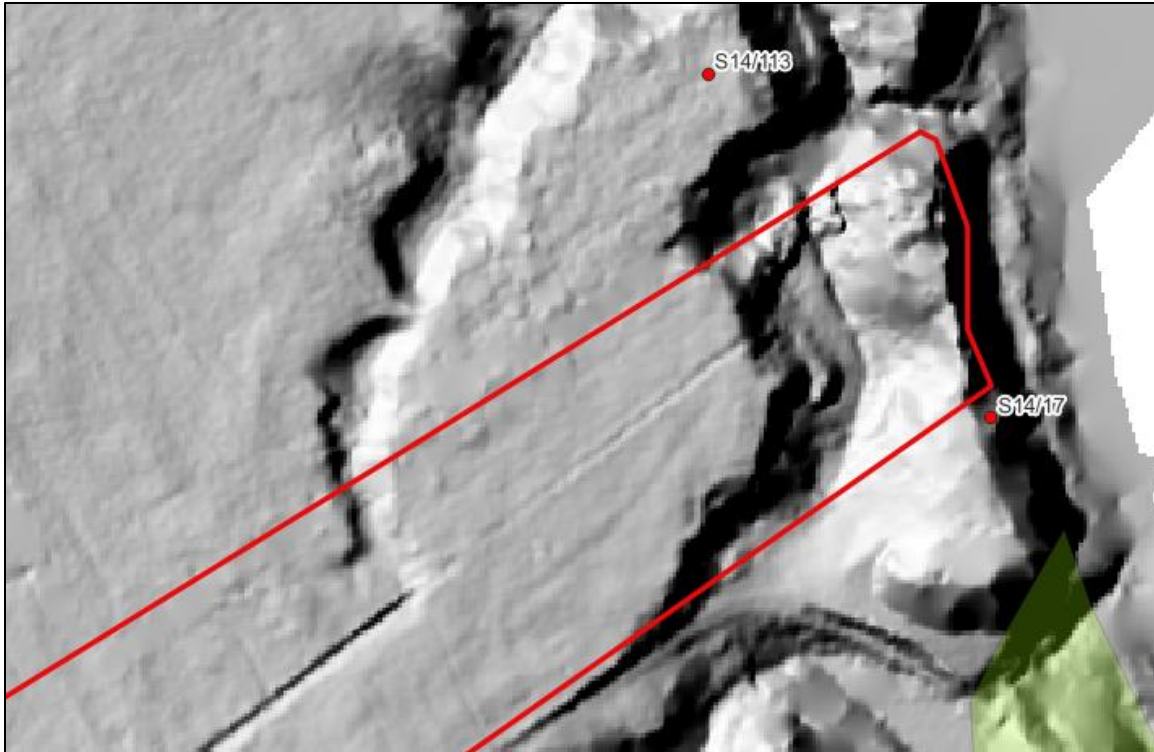


Figure 21: Close up of the LiDAR imagery for S14/17 by Plan Change Area (red polygon). Green polygons denoted extent of modified soils. Part of S14/17 extends into the Plan Change Area.

#### 7.4. SUMMARY OF DESKTOP EVIDENCE

A review of historic aerial imagery and LiDAR data indicates that there are portions of the Plan Change Area that have been previously disturbed. These relate to areas that were noted to have invasive earthworks visible, as well as areas where there have been structures post-1941 that have since been removed. These are mapped in Figure 22.

##### 7.4.1. PRE-EUROPEAN MĀORI ARCHAEOLOGY

There are two recorded archaeological sites which continue into the Plan Change Area; S14/17 and S14/505. S14/17 is a pā site. Modified horticultural soils and borrow pits have been identified from soil map data and historic aerial imagery and recorded as S14/505.

##### 7.4.2. EUROPEAN-ERA ARCHAEOLOGY

Six potential historic structures have been identified on the 1941 aerial imagery (labelled 2-7 on Figure 22). The likelihood of there being subsurface archaeological evidence for structures 2-6 is summarised here:

- Structure 2: This structure was noted on the 1941 aerial, and a newer house was constructed over approximately the same footprint. This newer house is present today. Subsurface evidence for the earlier building would have been negatively impacted by later development. Moderate potential for pre-1900 external features such as rubbish pits and wells being present.
- Structure 3: This was visible on the 1941 aerial as being possibly newly constructed due to the lack of trees/orchard surrounding the house and visible bare earth. This was removed

between 1979 and 1995, and the footprint is noted to have been disturbed in aerials dating to 1995. Low potential for pre-1900 archaeology.

- Structure 4: Visible on 1941 aerials; however, footprint has been completely destroyed during earthworks visible on aerial imagery dating to the 1970s. Low potential for pre-1900 external features such as rubbish pits and wells being present.
- Structure 5: Structure visible on the 1941 aerials, with roofline consistent with box cottages. Removed and replaced in the 1970s. Wider area noted to have been disturbed based on historic aerials. Moderate potential for pre-1900 external features such as rubbish pits and wells being present.
- Structure 6: Visible on 1941 aerials; however, footprint has been completely destroyed during earthworks visible on aerial imagery dating to the 1970s. Low potential for pre-1900 external features such as rubbish pits and wells being present.
- Structure 7 is the only pre-1941 building still present. This is in the southern extremity of the footprint. The site was not visited in 2023 and has been viewed only from Google Street View. It has sash windows and appears to be a c.1910-20s dwelling but further research is required to confirm this.



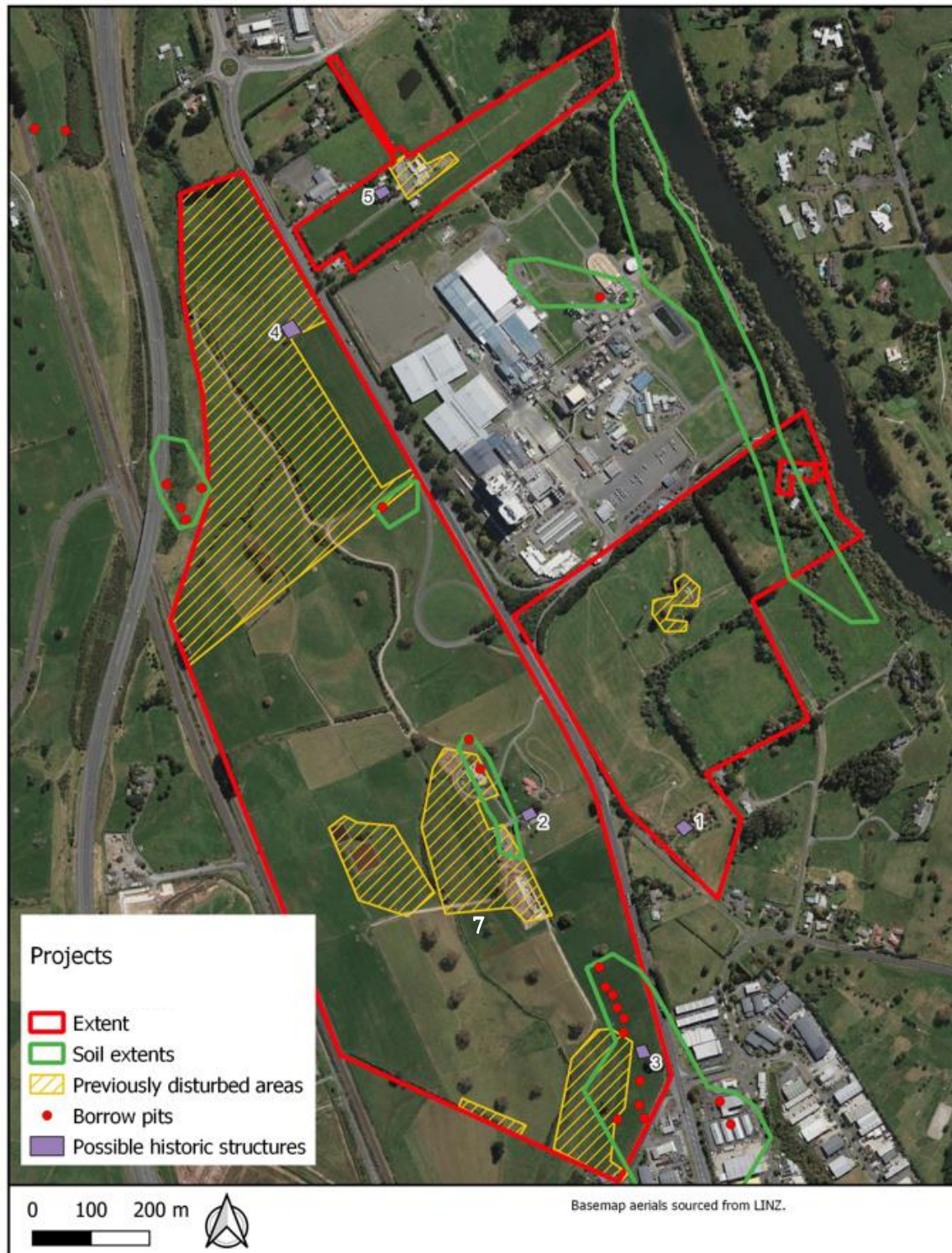


Figure 22: Map summarising the desktop findings at the Plan Change Area (red polygon).



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## 8. SITE VISIT

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A site visit to the Fonterra-owned parts of the Plan Change Area was undertaken on the 2<sup>nd</sup> of August 2023 by SKA archaeologists Anne O'Hagan and Isabella Caldwell. Dale Arbury (Fonterra) and Hans Joel Sorenson (Ngāti Wairere) were also in attendance during the site visit and accompanied the archaeologists for an inspection of the known archaeological site S14/17 and the southern area of modified soils (subsequently recorded as S14/505). Hand augers and test pits were excavated to determine the soil profiles and establish if modified soils were present.

Figure 1 identifies areas not subject to this survey. No access was provided to the southeastern portion of the Plan Change Area, the very northern area and the very southern end have been added on to the Plan Change Area since the survey was undertaken. The lack of survey in these three areas is not considered to have been a hindrance to providing the conclusions and recommendations in this assessment. The very northern area has clearly been heavily modified to the extent that archaeology is unlikely to have survived, the southeastern arm is likely to hold similar evidence for horticultural practice as identified in other areas within PC17 and as such it is likely that the archaeological values will be of a similar nature, and the very southern end has no known archaeological evidence present, a dwelling is located here which is likely to be post-1900. The southeastern and southern areas should be subject to future surveys once development plans are being prepared.

### 8.1. NORTHEAST

This portion of the Plan Change Area is currently in short pasture with the buildings clustered around the centre of the property (Figure 23). The developed area was only briefly inspected as there was gravel deposited around all the structures which prevented subsurface testing. There was no evidence for the potential historic structure (no. 5) noted in the desktop research.

Pā site S14/17 is located at the eastern extent of this area, immediately adjacent to the Waikato River. Due to high water levels and heavy vegetation cover across the pā (Figure 24), it was determined that a closer inspection should be undertaken during a future site visit, and an invitation would be extended to iwi representatives. No evidence for any recent disturbances to the pā were noted from the observation point.

Test pits were excavated across the paddock area to the east of the buildings (Figure 23). All test pits exposed a similar profile – between 5-10cm of topsoil overlying the natural subsoil. Test pits 1, 2, 4-5 exposed Te Kowhai subsoil (Figure 25), and test pits 3 and 6 exposed underlying soils that were more consistent with Horotiu subsoil. No evidence of horticultural soils or potential archaeological material was identified. Furthermore, no potential borrow pits or pit depressions were noted.

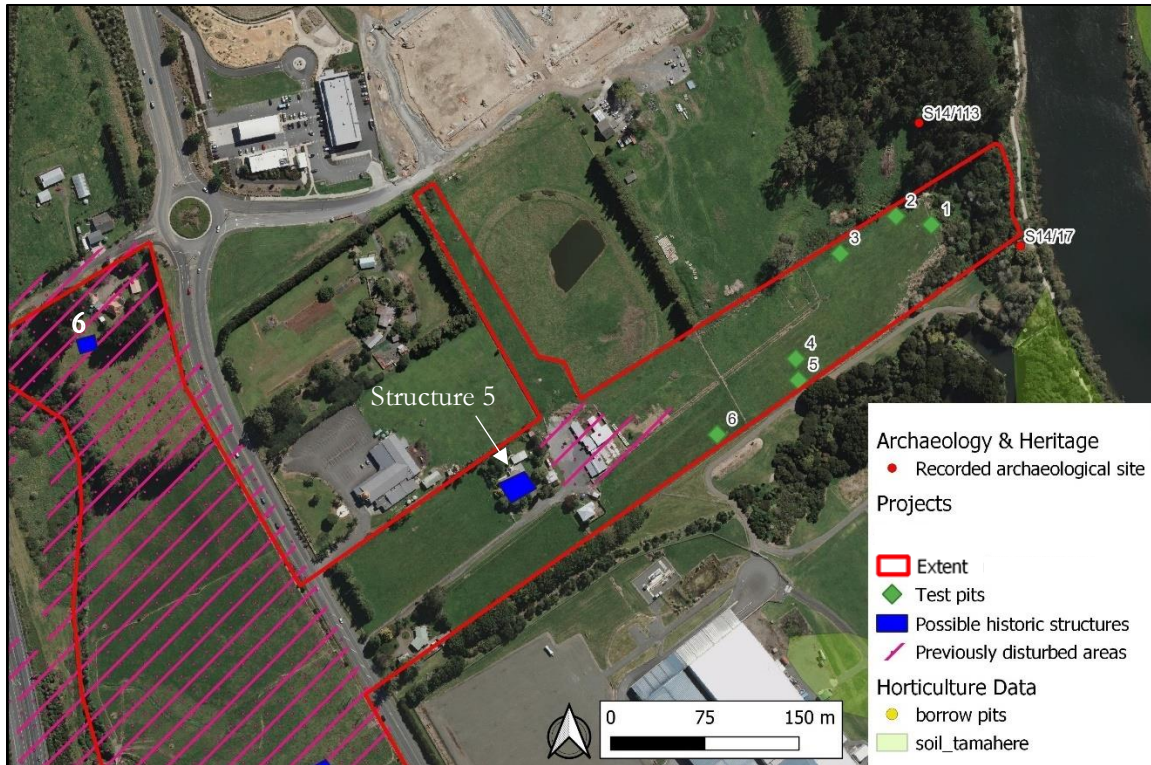


Figure 23: Green diamonds denoted test pit locations at NE of Plan Change Area (red polygon).



Figure 24: Image looking east towards S14/17.



*Figure 25: Representative soil profile of the test pits.*

## **8.2. NORTHWEST**

The northern extent of this part of the Plan Change Area was excluded from close inspection due to the extensive earthworks noted in historic aerial imagery. The area of mapped modified soils was targeted (Figure 27), and hand augers confirmed modified soils with sand and gravel present throughout the topsoil. Hand auger results indicated potential disturbance in this area as the topsoil contained small pockets of redeposited clay.

The small hill identified in the LiDAR imagery was inspected and a series of hand augers excavated on the top (Figure 26 & 29). These exhibited a maximum 10cm layer of topsoil overlying a clean natural subsoil. No evidence of archaeological deposits, material or surface depressions were noted on the hill.



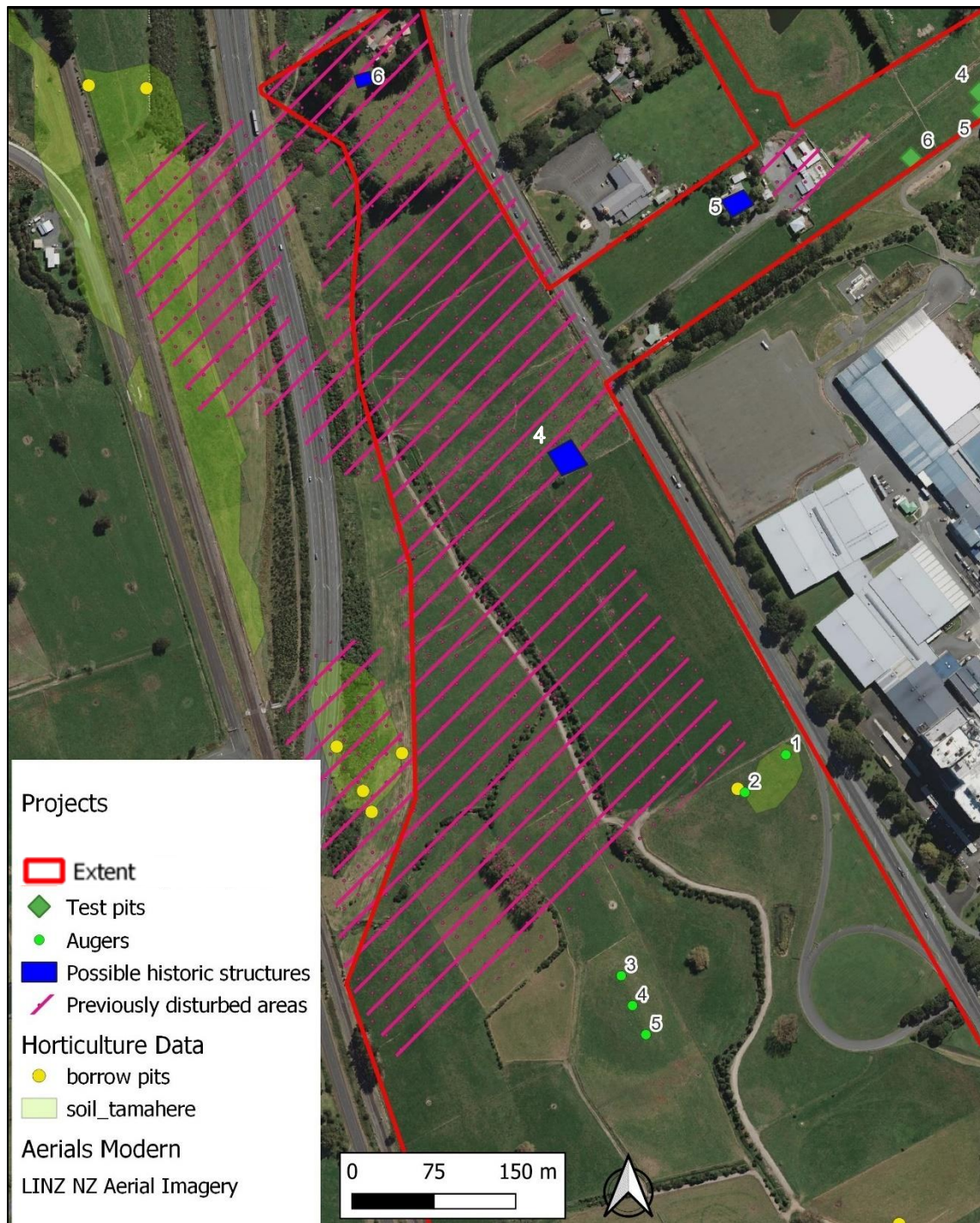


Figure 26: Plan of hand augers (green dots) in northwestern portion of the Plan Change Area (red polygon).





*Figure 27: Image looking east across the area of pre-European Māori modified soils (S14/ 505).*



*Figure 28: Image looking west across the hill.*



Figure 29: Green dots denoted hand augers in southwestern portion of the Plan Change Area (red polygon).

### 8.3. SOUTHWEST

With the exception of the 11 ha at the very southern point, most of the southwestern portion of the Plan Change Area was visually inspected in 2023. Hand augers were excavated periodically (Figure

29). Evidence of Māori modified soils – sand and gravel mixed into the topsoil – was present within all augers (12-19) excavated across the area of mapped modified soils.

#### 8.3.1. NORTHERN MODIFIED SOIL AREA

Two borrow pits are visible on historic aerial imagery. All the paddocks in this area had stock in them at the time of the site visit, therefore no subsurface testing could be undertaken. This area was visually inspected and no borrow pit depressions could be identified.

#### 8.3.2. SOUTHERN MODIFIED SOIL AREA

Up to twelve borrow pits are visible on historic aerial imagery and/or were identified during the field survey, these are mapped in Figure 30. The extents of borrow pits 1-3 were established based on visual inspection (Figure 31). Borrow pits 4-6 were within a paddock that was not accessible, and the extents shown are based on historic aerial imagery. The borrow pits that were noted to have been infilled based on the historic aerial imagery could not be easily relocated (Figure 32). The soil profile exposed in auger 13 (Figure 29) exposing a fill layer of up to 30cm overlying a modified soil which may represent an infilled borrow pit (Figure 30; borrow pit 8).

Māori modified soils were detected around the periphery of the borrow pits, this deposit extending between the top of the slope to the west to the property boundary to the east. All hand augers in this area exposed modified soils consistent with traditional gardening.





Figure 30: Map showing the extent of the borrow pit features highlighted pink based on the site visit and historic aerial imagery in the Plan Change Area (red polygon).





*Figure 31: Image looking east across two borrow pit depressions denoted by black dashed lines. Borrow pits 1 & 2 in Figure 32.*



*Figure 32: Image looking east across the southern extent of the Plan Change Area.*

A series of drainage channels had recently been excavated within the low-lying land immediately adjacent to this area (Figure 33). These were examined and whilst there were modern disturbances in the soil profile, it was mainly intact. No potential archaeological material was noted, a representative soil profile is shown in Figure 34.





*Figure 33: Image looking west across the low-lying area adjacent to the southern modified soil area showing the earthworks.*



*Figure 34: Representative soil profile of the drainage ditches excavated within the low-lying area.*

A possible pit depression was noted along the southern boundary (Figure 29 auger 11, Figure 30 borrow pit 12, and Figure 35). This is within an area of previous disturbance; however, a hand auger within the centre of this depression showed evidence of sand and gravel within the topsoil before encountering the natural river gravels below. The nature of this feature remains inconclusive.





*Figure 35: Image showing the depression represented in Figure 30 as Auger 11.*

#### 8.3.3. BALANCE OF LAND

No further archaeological remains were noted across the remaining southwestern portion of the Plan Change Area. A series of augers provided evidence that the soils profiles are intact. The underlying natural soils varied between Te Kowhai and Horotiu.

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## 9. SUMMARY OF EVIDENCE

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The research and fieldwork for this assessment has identified that:

- There is one recorded pā site (S14/17) located at the northern extent of the Plan Change Area. It is immediately adjacent to the Waikato River and has been previously recorded as part of a wider complex of sites related to Mangaharakeke Pā (S14/18), the latter located between the existing Te Rapa Dairy Manufacturing Site and the river (which is not subject to PC17). Previous archaeological investigations associated with S14/17 note that the portion of the site within the Plan Change Area is the only aspect of the site that is still intact. As such, there are likely to be high archaeological values associated with this site.
- Traditional gardening site S14/505 is located within the Plan Change Area. This was identified from the desktop research including soils maps and aerial imagery and ground-truthed during the site visit undertaken for PC17. The archaeological site consists of three areas of pre-European Māori horticultural activity, which was established as extending into the Plan Change Area during the site visit. S14/505 is characterised as consisting of modified soils and up to twelve borrow pits, some of which have been infilled. The approximate extent of the borrow pit features is shown in Figure 30.

- There was no access to the modified soils identified at the southeastern end of the Plan Change Area, so this area has yet to be ground-truthed and formally recorded as an archaeological site.
- No conclusive evidence of pre-1900 European era settlement of the Plan Change Area was found during the preparation of the assessment. Six potential historic dwellings were identified based on 1941 aerial imagery. The locations are shown on Figure 22.

Structures 3, 4, and 6 are considered to have been so heavily modified that the risk of affecting archaeological values is low.

There is a low to moderate risk of affecting archaeological values at structures 2, 5 and 7 (the latter is the only dwelling still present, it probably dates from c.1910 but this is yet to be established). With the exception of Structure 7, there are no surface remnants of these dwellings today.

- The southeastern arm and southern areas of land within the Plan Change Area that were not available for archaeological survey will be subject to future archaeological field survey as part of future consenting processes to determine if archaeological values are present.

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## 10. CONSTRAINTS AND LIMITATIONS

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This report is an assessment of archaeological values within the Plan Change Area. A combination of desktop research and site survey with limited soil testing was undertaken. Only the Fonterra-owned land was subject to the site visit. There are no statements on the cultural significance of the Plan Change Area nor are the views of Mana Whenua represented in this report.

Statements are made as to the location and nature of recorded archaeological sites and their archaeological values. The archaeological information is derived from both published materials including the HNZPT Digital Archaeological Report Library and New Zealand Archaeological Association (NZAA) ArchSite Database as well as information from archaeologists who have undertaken research and HNZPT authority work in this part of the wider Hamilton area.

Archaeological site location data should be regarded as a guide only as the locational accuracy of archaeological sites recorded in ArchSite is variable. Accuracy for some recorded sites is only to 100 m grid squares and many of these have been recalculated from earlier 100-yard coordinates which can increase the location error. Those sites that have not been recorded accurately are indicated on the ArchSite maps with a square and are only accurate to within, at best, 100 m of the actual site location. Archaeological sites that have been visited since the advent of GPS may have more accurate recorded locations. The full extent of recorded sites is often not known, and the single point coordinate provided by ArchSite is often based on only the visible surface archaeological remains. This does not necessarily represent the true subsurface extent of archaeological sites as defined in the *Heritage New Zealand Pouhere Taonga Act 2014* (HNZPTA), as most archaeological remains lie below the ground surface.

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## 11. ASSESSMENT OF HISTORIC HERITAGE/ ARCHAEOLOGICAL VALUES

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### 11.1. DISCUSSION OF VALUES

The Waikato Regional Policy Statement (RPS), and the ODP identify several criteria for evaluating the significance of historic heritage places. In addition, HNZPT, has provided guidelines setting out



criteria that are specific to archaeological sites. These sets of criteria have been used to evaluate the value and significance of archaeological site S14/17 and S14/505.

### 11.2. PRE-EUROPEAN MĀORI VALUES (HNZPT)

The desktop research and site visit confirmed that there is evidence for pre-European Māori settlement of the Plan Change Area. This includes pā site S14/17, and S14/505 - areas of horticultural activity characterised as modified soils and borrow pits.

The following is an assessment of the archaeological values associated with pā site S14/17 based on the criteria required by HNZPT.

- *Condition:* The condition of S14/17 has not been ground truthed during the preparation of this report; however, based on a review of historic aerial imagery and observations by Phillips (2014), the portion of the archaeological site within the Plan Change Area is considered to be in good condition. The southern portion of the site that was closely inspected by Phillips (2014) had been previously destroyed during works associated with the expansion of the dairy factory; therefore, the portion of the site within the Plan Change Area is the only remaining intact portion.
- *Rarity:* Pā sites along the Waikato River are not rare, S14/17 is often referred to as a portion of the wider site complex associated with nearby pā site S14/18 Mangaharakeke.
- *Contextual Value:* S14/17 forms part of an archaeological landscape of settlement and gardening along the Waikato River. It very likely relates to the surrounding sites S14/112 and S14/113, as well being part of the Mangaharakeke Pa complex S14/18.
- *Information Potential:* Portions of S14/17 have been previously destroyed so any archaeological remains within the Plan Change Area within this pā site have high information potential.
- *Amenity Value:* The pā is located on private property; however, amenity values have been enhanced in relation to the Te Awa Cycleway and Mangaharakeke Pā to the south, which has seen some restoration and maintenance, potential exists for this site to be incorporated into that strategy.
- *Cultural Associations:* Any comment on cultural association and value is left for Mana Whenua to provide.

The following is an assessment of the archaeological values associated with traditional gardening site S14/505 based on the criteria required by HNZPT.

- *Condition:* There has been post-1900 modification to the three areas of horticultural activity forming S14/505. However, at least four borrow pits are visible on the ground surface at the southern extent of the archaeological site and an approximate extent of the associated modified soils was established based on the site visit and soil maps. A further series of probably infilled borrow pits were identified based on historic aerial imagery. They are likely to be in good condition, however, this can only be confirmed through intrusive investigation techniques.

The central and northern most areas of modified soils have likely been impacted more heavily by post-1900 activity and the extent and condition of these areas is not clear. It is

expected that portions of these areas have been destroyed; however, there is potential for areas to remain intact.

- *Rarity*: Horticultural sites are not considered rare within the Waikato Basin. These sites are however diminishing due to modern land development.
- *Contextual Value*: Borrow pits and associated modified soils are evidence for traditional Māori horticultural practices and are likely associated with the occupation of the adjacent riverside pā.
- *Information Potential*: A number of archaeological features have been identified and there is high potential for new data and information to be obtained through archaeological investigation. The site will likely hold important information to add to our understanding of Māori settlement and land use.
- *Amenity Value*: The site is currently in private land and the borrow pits are not highly visible with there currently limited amenity value associated with this site.
- *Cultural Associations*: Any comment on cultural association and value is left to Mana Whenua to provide.

Note that as the area of modified soils at the south-eastern portion has not been ground-truthed, it is not possible to determine any values for this area.

### 11.3. HISTORIC HERITAGE VALUES (RMA)

The following is an assessment of Historic Heritage values based on the RMA definitions. Should there be heritage material present the following statements on their values may be considered:

- *Archaeological*: Refer to Section 11.2.
- *Architectural*: There are no known heritage buildings or structures present.
- *Cultural*: This is for Mana Whenua to determine.
- *Historic*: There are no known historical events or figures associated within this land.
- *Scientific*: There are no known historical scientific values associated with this land.
- *Technological*: There are no known historical technological values associated with this land.

There are no known historic sites, structures, places, or areas, in the Hamilton City ODP within the Plan Change Area.<sup>8</sup> Pā site S14/17 is proposed within PC9<sup>9</sup>, and the assessed values for this defined in Section 11.2 are relevant.

It is for Mana Whenua to determine if there are sites of significance to Māori, including wāhi tapu, and surroundings associated with the natural and physical resources.

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<sup>8</sup> <https://hamilton.isoplan.co.nz/eplan/> (retrieved 4/06/2024)

<sup>9</sup> PC9 is not operative and is currently within the Environment Court appeal process.

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## 12. ASSESSMENT OF EFFECTS

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The effects on archaeological values are dependent upon the nature and location of future development within the Plan Change Area. It is not possible to assess the effects of any future development of this land on archaeological values as Fonterra do not currently have a specific development proposal. Effects can be avoided, remedied or mitigated at the design stage under the RMA, and can also be mitigated and managed through the HNZPT authority process.

Pā site S14/17 should be excluded from all future development as this site has high archaeological and cultural values.

There is one confirmed traditional Māori horticultural site present S14/505. Up to 12 borrow pits and associated garden soils are within the Plan Change Area, and this site continues beyond the eastern boundary. A second area of modified garden soils is shown on soil maps at the southeastern end of the Plan Change Area. This has not been surveyed and is yet to be ground-truthed. If future development within the areas defined as modified soils is unavoidable, these should be subject to assessment of effects and will likely require an archaeological authority from HNZPT.

Based on the current understanding of S14/505 and the small patch of garden soil in the southeast, if the horticultural sites are potentially impacted by future development, the effects on the overall heritage values of Horotiu will likely be minor to moderate. This should be considered further as part of any resource consent application.

There is potential for one or more of the six dwellings noted on the 1941 aerial to be pre-1900. With the exception of Structure 7, the dwellings are no longer present, and any remains will therefore be subsurface. The dwellings have all been affected by subsequent earthworks, and any archaeological values will likely have been compromised as a result. Structures 2 and 5 have moderate potential for intact pre-900 remains, there could be foundation remains, rubbish pits and wells present. Structures 3, 4, and 6 have been determined to have low potential. If future development within dwelling 3, 4, 6 and 7 is planned, these should be subject to assessment of effects and may require an archaeological authority from HNZPT. Based on the current understanding that these dwellings could be late 1800s to early 1900s, but are not likely to be intact sites, the effects on archaeological values are likely to be minor to moderate.

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## 13. RECOMMENDATIONS

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### 13.1. S14/17

The extent of pā site S14/17 should be excluded from all future development. Furthermore, it is recommended that:

- A site visit be undertaken to the pā in collaboration with Mana Whenua.
- The pā be mapped and closely inspected to record visible features.
- A conservation management plan (CMP) be developed to manage the pā site.

### 13.2. S14/505

S14/505 is partially within the Plan Change Area and continues to the east outside of the boundary, therefore not all of this archaeological site is within the proposed Plan Change Area. This is not an intact garden site. It has been affected by historic earthworks, and some of the site has probably been

infilled. Outside of the Plan Change Area it appears the archaeological site has likely been destroyed by modern development.

If future developments cannot avoid affecting all or part of this site, a full assessment of effects should be commissioned. For any earthworks that might affect all or part of this site an Authority must be applied for under section 44 (1) of the HNZPTA and granted by HNZPT prior to the start of any future works. **This is a legal requirement.**

### **13.3. POTENTIAL GARDEN SITE SOUTHEAST**

The area of mapped modified soils on the southeast side of the Plan Change Area should be subject to a field visit to determine if this is an archaeological site. If it is found to be such, the recommendations for S14/505 should be adopted.

### **13.4. EUROPEAN DWELLINGS**

The six dwellings identified on the 1940s aerial image are not known to be pre-1900.

The location of Structures 3, 4, and 6 appear to have been affected by significant historic earthworks and there are no anticipated values to avoid or mitigate.

There could be archaeological values at Structures 2, 5, and 7. If any of these three structure locations are to be impacted by future development, this should be assessed through a full AAE to determine if an authority is required.

### **13.5. MANA WHENUA**

Mana Whenua should be consulted regarding this assessment and the conclusions reached, the cultural effects of PC17 and any possible future development.



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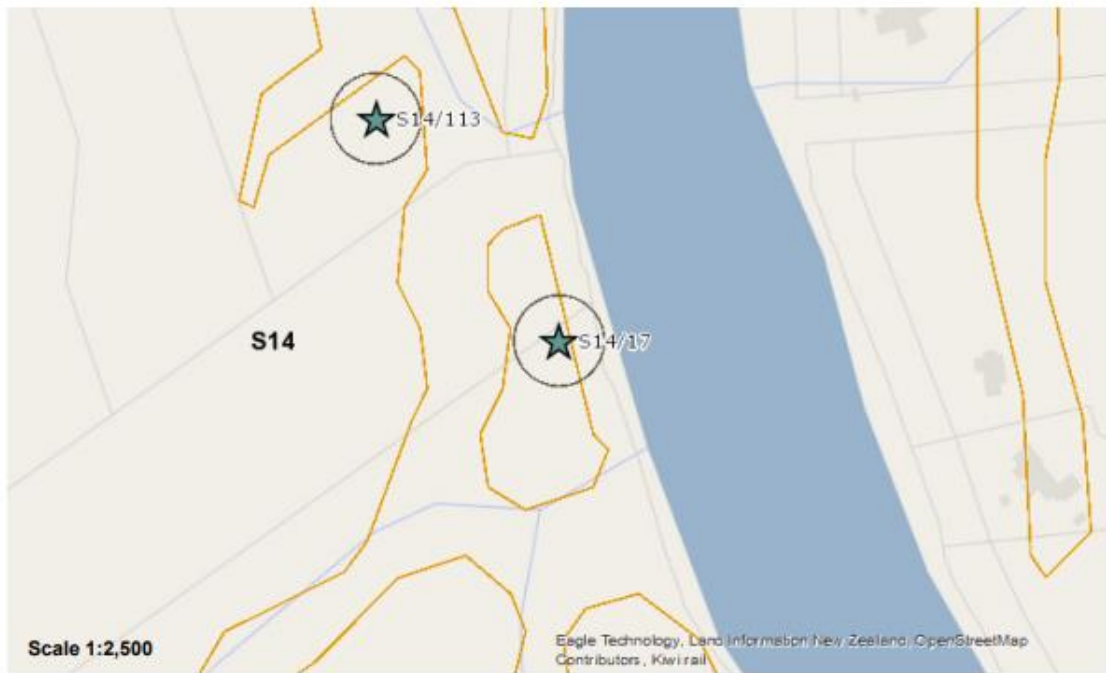
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**APPENDIX – SITE RECORD FORMS**

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## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

|  |  |  |
|--|--|--|
|  <b>Site Record Form</b><br>archaeological site<br>recording scheme   |  | <b>NZAA SITE NUMBER:</b> S14/17<br><br><b>SITE TYPE:</b> Pa<br><br><b>SITE NAME(s):</b><br><br><b>DATE RECORDED:</b> |
| <b>SITE COORDINATES (NZTM)</b> Easting: 1795431      Northing: 5823828      Source: On Screen  |  |  |
| <b>IMPERIAL SITE NUMBER:</b> N56/19 <b>METRIC SITE NUMBER:</b> S14/17  |  |  |
|   |  |  |
| <b>Finding aids to the location of the site</b><br>SE of Horotiu, on W bank and directly above Waikato River, several hundred metres E of intersection of Benn Road with SH 1. 600m N of Te Rapa milk factory. |  |  |
| <b>Brief description</b><br>Pa site with at least eight pits, ditch, possible house platforms.   |  |  |
| <b>Recorded features</b><br>Ditch, House floor/ site, Pit  |  |  |
| <b>Other sites associated with this site</b><br>S14/18   |  |  |

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## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

| SITE RECORD HISTORY  | NZAA SITE NUMBER: S14/17 |
|--|--------------------------|
| <p><b>Site description</b></p> <p>Updated: 26/03/2014, Visited: 14/07/2013 - NZTM E1795431 / N5823828 (On Screen - Coordinates retained). Caroline Phillips 2014, "Archaeological report of monitoring Te Awa River Ride cycle-way, Horotiu Bridge-Meadow View Lane: Historic Places authority 2013/261 and 2014/109". Found to have been severely damaged by several different periods of earthworks. Examination of aerial photographs identifies the parts that might still remain. Appears to be two sites: northern storage pit site similar to S14/16 (located immediately to west) and southern defensive part in similar style to Mangaharakeke S14/18. Inspected by: Phillips, Caroline.</p> <p><b>Condition of the site</b></p> <p>Dense scrub and trees, no features visible on Waikato Regional Council Aerial photo (ca. 2002).</p> <p>Updated: 26/03/2014, Visited: 14/07/2013 - Found to have been severely damaged by several different periods of earthworks.</p> <p><b>Statement of condition</b></p> <p>Updated: 27/03/2014, Visited: 14/07/2013 - Poor - Visible features are incomplete, unclear and/or the majority have been damaged in some way</p> <p><b>Current land use:</b></p> <p><b>Threats:</b></p> |                          |

## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

|                              |                                 |
|------------------------------|---------------------------------|
| <b>SITE RECORD INVENTORY</b> | <b>NZAA SITE NUMBER: S14/17</b> |
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Supporting documentation held in ArchSite

AD AK --- AA ID

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| NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION<br><b>SITE RECORD FORM</b><br>Map number N56<br>Map name Ngaruawahia<br>Map edition NZMS 1 3rd ed. 1965<br>Grid Reference 726559   |  | SITE NUMBER N56/19<br>SITE NAME: MAORI<br>SITE TYPE Pa                                       |
| E272600 N555900<br>1. Aids to relocation of site On the west bank of the Waikato and directly above the River, several hundred metres east of the intersection of Benn Rd. with State Highway 1.  |  |  |
| 2. State of site; possibility of damage or destruction<br>To be ascertained.  |  |  |
| 3. Description of site (NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.)<br>Small pa with rectangular pits located using aerial photographs.<br>Ground inspection to follow presently. |  |  |
| 4. Owner Address To be ascertained.   |  | Tenant/Manager Address<br>Attitude<br>Attitude   |
| 5. Methods and equipment used Aerial photo inspection only.<br>Photographs taken: Yes/No (Describe on Photograph Record Form)<br>Date recorded February, 1977.  |  |  |
| 6. Aerial photograph or mosaic No. 3277/17 & 18   |  | Site shows:<br>Clearly/ <del>badly</del> / <del>not at all</del><br><b>S. C. EDSON</b>       |
| 7. Reported by S. Edson,<br>Address Waikato Art Museum,<br>Box 937, Hamilton.<br>Date February, 1977.   |  | Filekeeper<br><b>WAIKATO ART MUSEUM</b><br><b>BOX 937 HAMILTON</b><br>Date 8th August, 1977. |

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

| <u>PHOTOGRAPHS AND SLIDES</u>      |  |
|------------------------------------|--|
| <b>SITE NUMBER</b><br>NS6/19<br>PA | <b>GRID REFERENCE</b><br>726559                    |
| <b>NZHPT COLLECTION</b>            | <b>CENTRAL FILE</b><br>AR 3099 (WAIKATO A.M. 1980) |

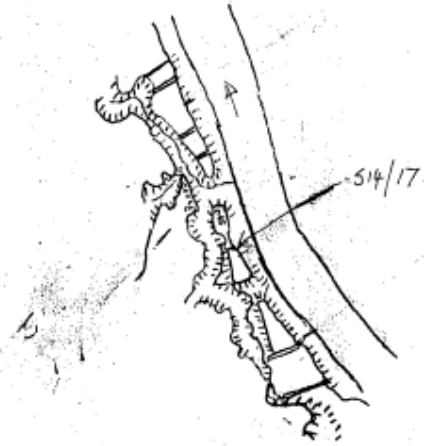
## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

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| NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION<br><b>SITE RECORD FORM (NZMS260)</b><br>NZMS 260 map number<br>NZMS 260 map name<br>NZMS 260 map edition  |  | NZAA METRIC SITE NUMBER S14/ 17<br>DATE VISITED 16-12-85. Mapped 30-12-85<br>SITE TYPE<br>SITE NAME: MAORI<br>OTHER |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Grid References Easting <u>0 5 7</u>   |  | Northing <u>8 5 4</u>   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Aids to relocation of site (attach a sketch map)<br>600 m. north of the Te Rapa milk powder factory.<br>Directly overlooks the Waikato River.<br>NSG 119  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. State of site and possible future damage<br>The owner is considering draining the swamp and providing access to the river for a boat when the economic climate improves.<br>Presently under deep grass and gorse. Sandy cliffs eroding on the north and east sides.   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here)<br>A cluster of 8 pits, probably more. The edges have disappeared over the tops of the cliffs.<br>This area appears not to be specifically defended, although the southern, unmapped part is.<br>See attached map.<br>See sketch of aerial photo 1941 301/28 |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Owner North.<br>Address Mr K. Wilmshurst<br>Longtail Kennels<br>Te Rapa Rd<br>Horotiu   |  | Tenant/Manager South.<br>Address Mr. T. H. Knowles<br>Gt South Rd<br>Horotiu  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Nature of information (hearsay, brief or extended visit, etc.) Visit<br>Photographs (reference numbers, and where they are held)<br>Aerial photographs (reference numbers, and clarity of site)   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Reported by<br>Address P. H. Morgan<br>c/o 13 Preston Ave<br>Auckland 9   |  | Filekeeper<br>Date  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Key words   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. New Zealand Register of Archaeological Sites (for office use)<br>NZHPT Site Field Code  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Latitude S<br><table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table> Type of site<br>Local environment today<br>Land classification   |  |   |  |  |  |  |  | Longitude E<br><table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table> Present condition and future danger of destruction<br>Security code<br>Local body |  |  |  |  |  |  |  |
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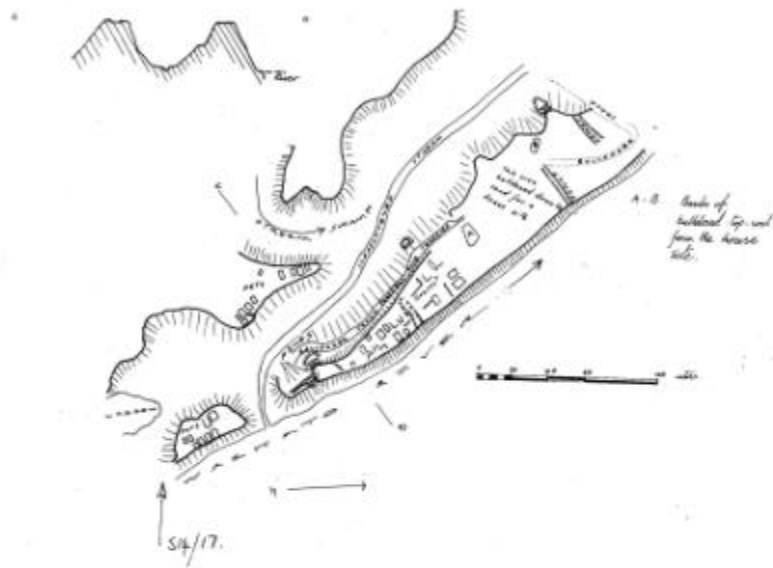
NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

S14/17



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314/17





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## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

|  |  |
|--|--|
|  <p><b>ARCH SITE</b><br/>archaeological site<br/>recording scheme</p> <p><b>Site Record Form</b></p>  | <p><b>NZAA SITE NUMBER:</b> S14/505</p> <p><b>SITE TYPE:</b> Maori horticulture</p> <p><b>SITE NAME(s):</b></p> <p><b>DATE RECORDED:</b></p> |
| <p><b>SITE COORDINATES (NZTM)</b> Easting: 1795473      Northing: 5822129      Source: On Screen</p>   |  |
| <p><b>IMPERIAL SITE NUMBER:</b>      <b>METRIC SITE NUMBER:</b> S14/505</p>  |  |
|  <p>Scale 1:2,500</p> <p>Eagle Technology, Land Information New Zealand, OpenStreetMap<br/>Contributors, Kiriwai</p>  |  |
| <p><b>Finding aids to the location of the site</b></p> <p>Three clusters of horticultural activity within farmland along western side of Te Rapa Road between the dairy factory turning bay and 50 Old Ruffell Road - extends throughout a number of properties. Please see map.</p> |  |
| <p><b>Brief description</b></p>  |  |
| <p><b>Recorded features</b></p> <p>Borrow pit, Soil - garden</p>   |  |
| <p><b>Other sites associated with this site</b></p>  |  |

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## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

|  |                                  |
|--|----------------------------------|
| <b>SITE RECORD HISTORY</b>   | <b>NZAA SITE NUMBER:</b> S14/505 |
| <p><b>Site description</b></p> <p>Updated 30/10/2023 (Field visit), submitted by siankeith , visited 30/10/2023 by O'Hagan, Anne<br/>Grid reference (E1795473 / N5822129)</p> <p>Three areas of modified soils have been identified based on historic soil plans and a recent site visit to the area. The southern area shown in the supporting map is the most extensive of the three and has 12 associated borrow pits based on 1940 aerial imagery. Two of these have likely been destroyed through commercial development, however, those within the farmland are likely still present. At least four of these (the southern most four) have been infilled or modified. Remaining in this cluster are visible on the ground surface. The extent of this area is based on soil maps and hand augers.</p> <p>The central area consists of modified soils and two borrow pits that are no longer visible on the ground surface due to a cow shed and likely infilling. The extent of this area of modified soils is based on soil maps as the area could not be assessed during the site visit due to cattle.</p> <p>The northern area is a small area of modified soils that have been impacted by post-1900 land use activities. The extent is based on soil maps and hand augers; however, due to modification, the extent is not clear.</p> <p><b>Condition of the site</b></p> <p>Updated 30/10/2023 (Field visit), submitted by siankeith , visited 30/10/2023 by O'Hagan, Anne</p> <p>Areas of the site within commercial development area have likely been destroyed. Portions of site within current farmland is considered to be intact; however, there is evidence of post-1900 modification as summarised in description.</p> <p><b>Statement of condition</b></p> <p><b>Current land use:</b></p> <p><b>Threats:</b></p> |                                  |



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY

NZAA SITE NUMBER: S14/505

Supporting documentation held in ArchSite



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